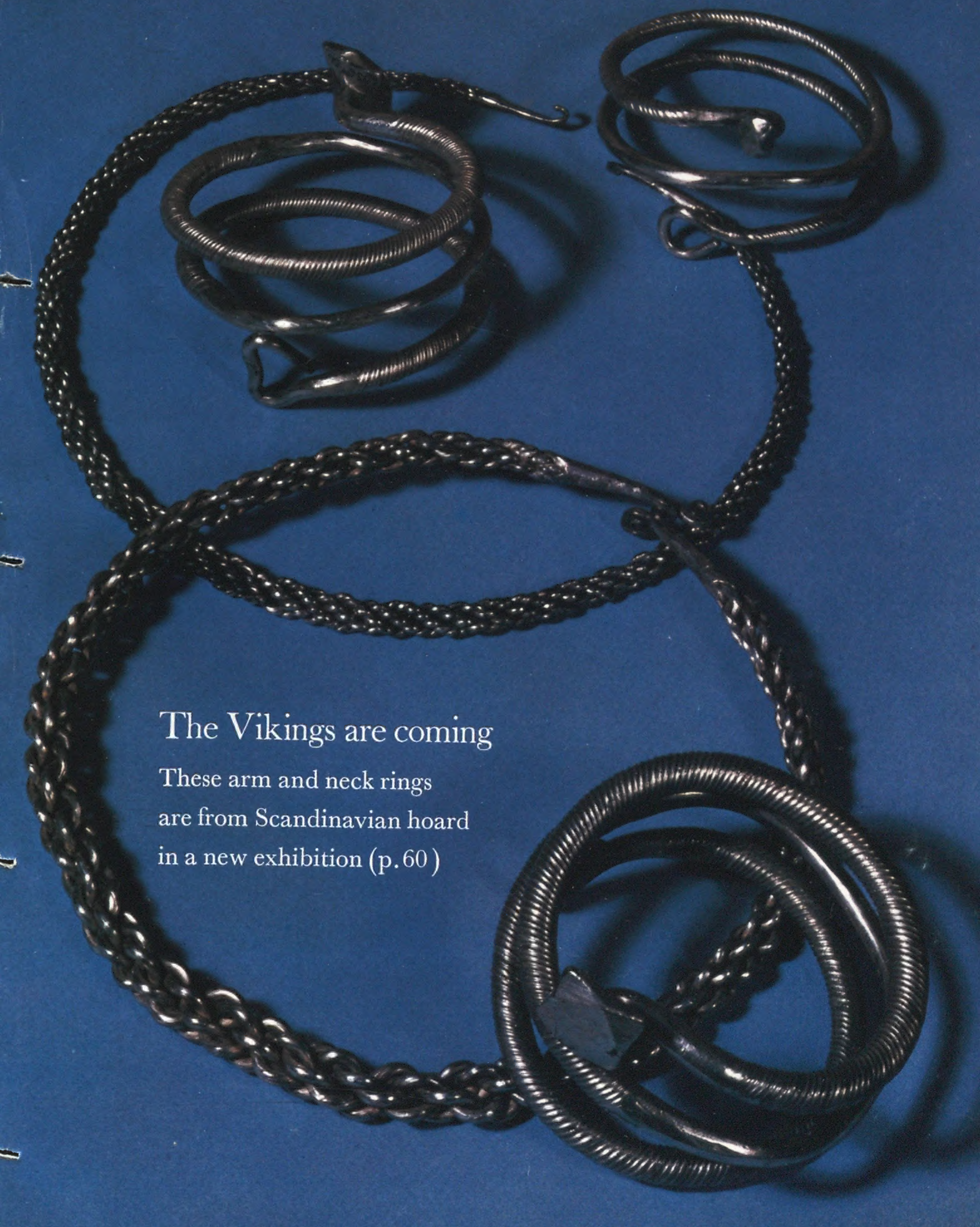
September 1980

Smithsonian



The Vikings are coming

These arm and neck rings
are from Scandinavian hoard
in a new exhibition (p. 60)

Henredon. For those who value excellence.

Modular designs from the Henredon Artefacts collection offer solutions to many space and storage problems. Generous armoires combine with a lighted canopy bed for a distinctive assemblage that is as practical as it is beautiful.

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Smithsonian

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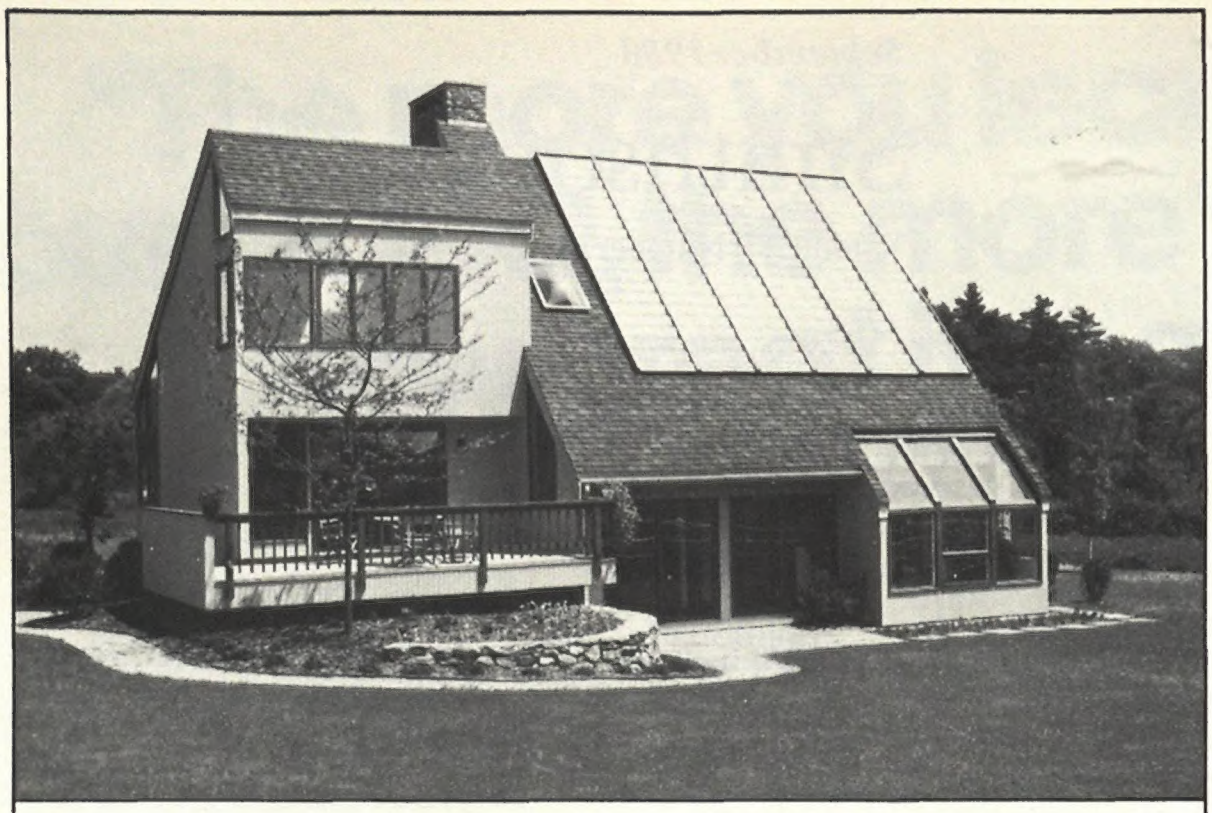


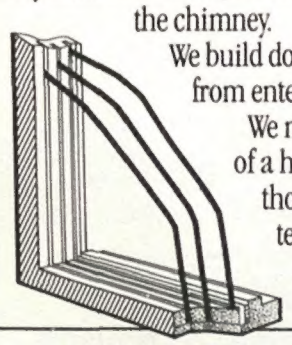
SOME OF OUR HOUSES ARE SOLAR HOUSES. OTHERS SIMPLY USE THE BEST ENERGY-CONSERVING TECHNIQUES UNDER THE SUN.

Acorn homes are a compilation of delights: some spaces large enough for lively gatherings and others small enough for private musings. Oak staircases, bookcases, and balcony rails that impart warmth to your home. A solarium that also serves as a breakfast room so you *and* your plants can bask in sunlight.

But Acorn is just as concerned with the practical as with the beautiful. And there's no better proof of this than our approach to energy conservation. Here are some "for instances":

We recognize that every site is unique. Temperatures, amount of sun, exposure to winds – all are factors we take into account in determining the insulation and construction norms appropriate to your site.

Our chimneys are in the center of our homes (on an outside wall, they heat the outside). And they radiate heat into the room, not up the chimney.



We build double entry-ways that prevent cold air from entering and warm air from escaping.

We maximize glass on the south-facing side of a house and minimize it on the others. And though most home manufacturers are content to use double-glazed glass, we recommend triple-glazing – except on the south side. Because our studies have shown that on the south side alone, energy allowed into the house by double-glazing outmeasures what is lost.

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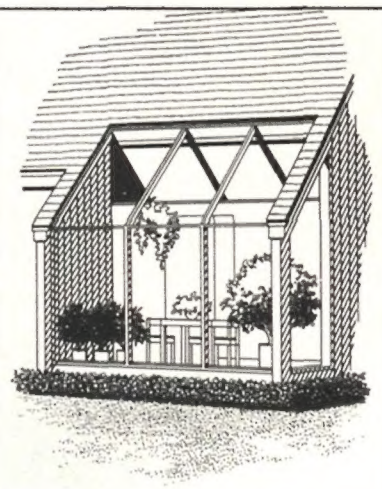

Solar house: some down to earth talk. The features just described are known technically as passive energy conservation. If you want more, the next logical step is active solar heat collection. Acorn's own Sunwave® solar system doesn't need special fluids or special maintenance. It's simple to install, simple to operate and simple to understand. We'll be happy to send you details.

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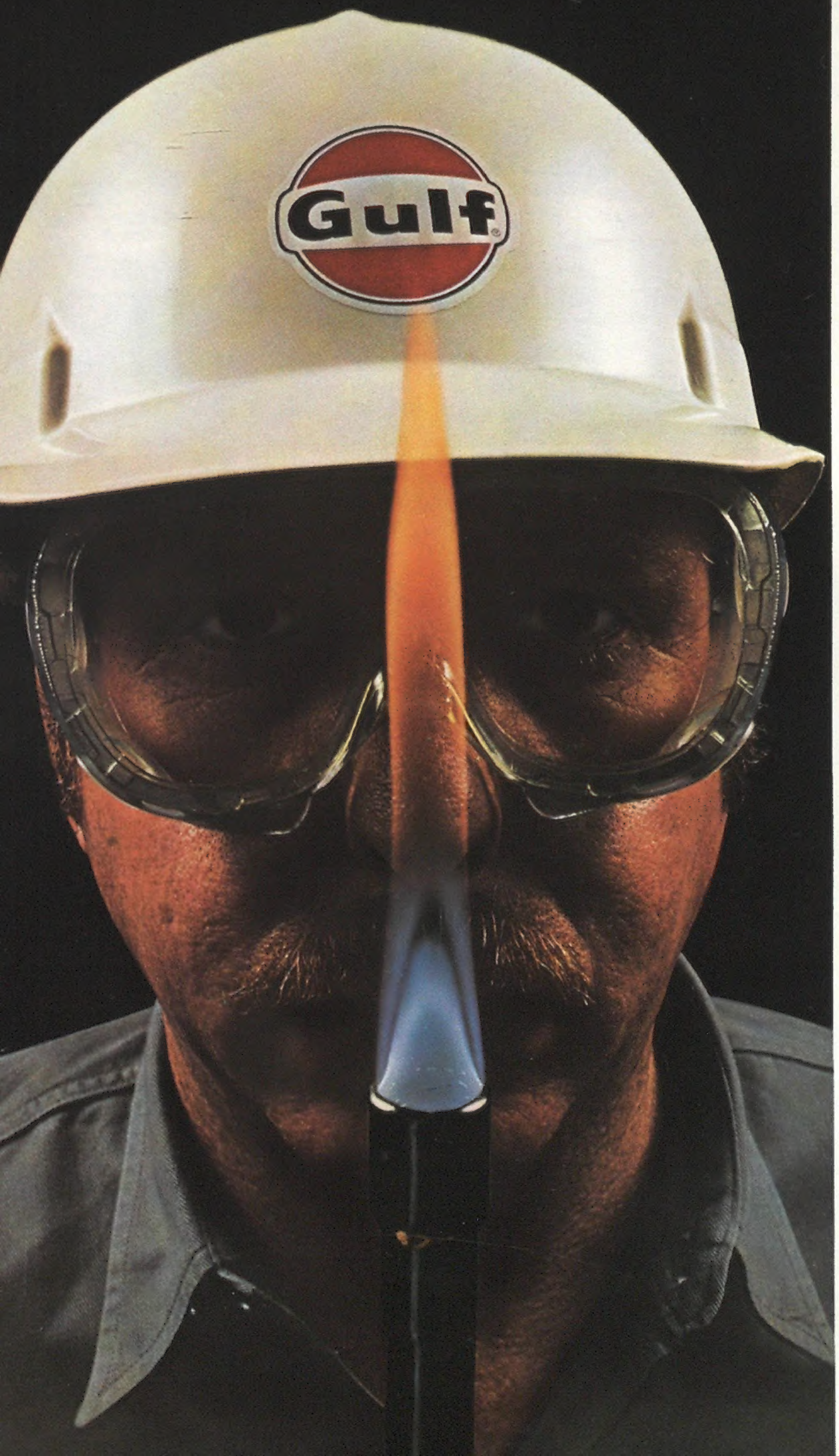
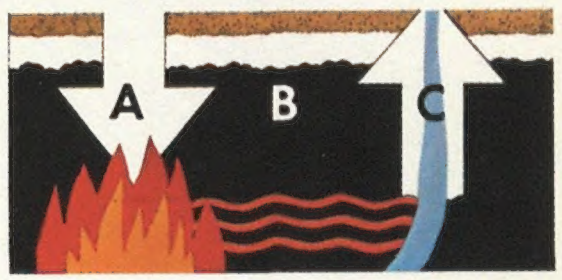
"How we get energy out of coal without taking the coal out of the ground."



"A lot of coal in America—millions of tons, in fact—is too deep or too slanted to be mined by any conventional techniques," says Gulf Engineer Jerry Daniel. "At Gulf, we're working with the Department



Air through injection well supports combustion of coal at A, fire heats coal at B, which produces gas recovered through production well, C.

of Energy on a way to extract the energy from that coal without mining it. We drill an injection well to set fire to the coal. By burning some of the coal, we heat up the rest, which causes it to produce gas. That's why it's called underground coal gasification.

"We had a test burn here in Rawlins, Wyoming, late in 1979, and we're setting up another one. Our hope is that by 1990, industry will be able to use this kind of synthetic gas, which of course will make us less dependent on expensive imported crude oil as an energy source.

"At Gulf, our first priority is to get all the oil and natural gas we can out of resources right here in America. But we're working on a lot of other good ideas, too. Underground coal gasification is one of them; and we're working with synthetic fuels, tar sands, geothermal energy, and other alternative energy sources.

"Overall, you might say that the business we're really in is the business of energy for tomorrow."

Gulf

Gulf people: energy for tomorrow.

Gulf Oil Corporation

"Someday we may use gas from coal the way we now use natural gas."

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A VINEYARD THAT PICKS VOLKSWAGENS.

This is not some agricultural feat that defies nature.

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They also got a Scirocco. A saucy little hybrid noted for its zesty bouquet combining powerful German character and subtle Italian contours.

They even picked a vintage Rabbit Convertible.

On the elegant side, they secured a seductive classic. A Dasher Diesel Wagon.

They were just as impressed with the Volkswagen Pickup Truck because its hearty, robust body and six-foot steel bed could easily carry a half ton of Chenin Blanc grapes ready to be pressed.

But, here's the corker. They found the perfect vehicle to deliver the best of their creations, quickly and at the proper temperature. A custom refrigerated Volkswagen Vanagon.

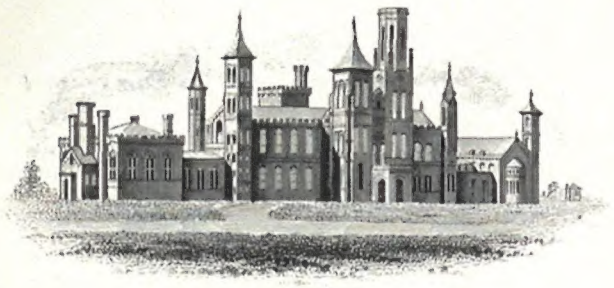
So it looks like it'll be a very good year, indeed.

Ah, but if only they made Volkswagens in burgundy.

VOLKSWAGEN DOES IT AGAIN

Secretary Ripley's comments

The view from the castle



Folklife festivals do remind us of our roots, but remind us also that our country is still a melting pot in which Americans are made

Our Festival of American Folklife, which is 14 years old this year, will demonstrate again next month something that has become self-evident over the years. This is the great interest that almost everyone has in seeing many of the tools and objects stored in museum cases brought to life and *used*. The fact that people everywhere, but especially in the country, know how to make things with their hands and use simple, old-fashioned tools fascinates the young people of this technological age.

But there is more than that. We rediscover the extraordinary diversity of national strains that make up our society. Thus there will be a Caribbean Carnival with steel band and calypso competitions; Finnish-Americans from northern Minnesota demonstrating a traditional "whip-sled" for children and such crafts as making Christmas tree ornaments from wood shavings; Southern carpenters building a traditional "dog-trot" house; Southeast Asians demonstrating weaving, embroidery, stone carving, calligraphy; and so on.

Inevitably, all of this reminds us of our roots. For the discovery, however tenuous sometimes, of rootedness (we all came from somewhere originally) is a matter of need, one of the oldest. It is a tangible part of the fascination with history, our own or our country's or that of some distant place.

This is a part of life that everyone should cherish, and so the Festival not only celebrates customs and ways of doing things, but evokes the pride of being someone from somewhere.

But it is possible that folklife festivals such as we helped pioneer may be open to misinterpretation. Our land is one of opportunity for folk from all over the world. It has welcomed immigrants since earliest times (since the Ice Ages, in fact, if we include the native peoples who first migrated to this continent). It has welcomed every kind and condition of people, as Emma Lazarus' lines inscribed on the Statue of Liberty make clear:

"Give me your tired, your poor,/ Your huddled masses yearning to breathe free,/ The wretched refuse of your teeming shore,/ Send these, the homeless, tempest-tossed to me:/ I lift my lamp beside the golden door." But this did not mean that the resulting amalgam was to be anything but American.

In the world today exaggerated ethnicity is becoming divisive. We see it in the divisiveness plaguing many countries, in separatist movements, in the revival of theocratic regimes, bent on bringing everyone under one religious cloak. That is not what America is all about. We are created from many strains, braided together, no matter what our backgrounds or ethnic roots may imply.

Never have the words on the Statue of Liberty had more relevance than they do today, for in the past few years refugees have been streaming to our shores in unbelievable numbers. We must respect their ethnic diversity—and indeed our nation can benefit from this rich cultural infusion—but at the same time we must offer the newly arrived the opportunity to assimilate, to become American. To do otherwise would be to misinterpret our heritage, which is one of togetherness for better or worse.

S. Dillon Ripley

THERE is an air of insatiable desire about Shalimar.

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by Theodore R. Stanley, Publisher, The Easton Press

As a reader of *Smithsonian*, you may have seen previous announcements for our luxurious leather-bound volumes, *The 100 Greatest Books Ever Written*. Perhaps you've asked yourself, "Are the books as beautiful as they appear in the photographs. And would I enjoy owning them?"

I can understand such questions. We have all seen beautiful-looking objects in advertisements—and then been disappointed when the actual products fall far short of expectations. But let me assure you, here is a case where the opposite holds true! These volumes are far more magnificent than any photographs could show. There is simply no way for photographs to convey the rich, textured look of the leather, the gleam of the real gold embellishments, and the many fine details of each binding.

Many of our satisfied subscribers first learned of these volumes through *Smithsonian*. It seems that readers of this magazine especially appreciate the efforts we put into the creation of these volumes. You may be interested in their reasons for subscribing and their reactions to the volumes.

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A total commitment to quality.

Subscribers frequently comment on the unique *value* that these volumes offer during inflationary times. A collector from Des Moines says he regrets not having discovered Easton Press editions sooner. Comparing ours to other collector volumes (offered at a higher price), he states: "In almost every instance, the type, illustration, binding, leather, and ornamentation are far superior in the Easton editions." A Canadian collector writes: "The quality of the materials and the taste with which the volumes are presented allows me to believe it is still possible to hope in this era of mass-produced mediocrity."

This last comment captures the spirit which guides The Easton Press. Fortunately, it is still possible to find craftsmen who uphold the traditional standards of the bookbinder's art, and to supply them with the finest materials—premium-quality leather, acid-free paper, fine moiré fabric for the endpapers. It is still possible to have master book designers create striking, original, and appropriate cover designs—a different one for each volume. This is the kind of effort which goes into the production of *The 100 Greatest Books Ever Written*.

"Rarely, these days, is it possible to receive such high-quality merchandise at such a reasonable price," writes another collector. At a time when ordinary best-sellers can cost up to $20 each (and be forgotten in months), serious book-lovers are choosing instead to purchase more permanent and luxurious volumes at just $33.50 each.

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This, then, is the opportunity that awaits you. The chance to re-discover your favorite classics and enjoy great works you've always wanted to read...to share in the pride and pleasure of owning luxurious volumes that will become treasured family heirlooms...to build a magnificent and enduring home library for little more than the cost of filling your shelves with the day's best sellers. Hundreds of *Smithsonian* readers have already joined us. Shouldn't you count yourself among them?

◀ Lift here

It is not difficult to list the world's greatest books. The titles and authors leap quickly to mind. And for good reason. The books that have been recognized as great, generation after generation, are part of the world we live in. They have shaped our lives, our language, our values, our outlook.

These books include novels like Melville's *Moby Dick*, Dickens' *A Tale of Two Cities*, Hawthorne's *Scarlet Letter*, Bronte's *Wuthering Heights*. They include serious—yet highly readable—works of thought like Plato's *Republic*...heroic epics like Homer's *Iliad*...sharp-witted satire like Swift's *Gulliver's Travels*...brilliant poetry like Whitman's *Leaves of Grass*.

On everyone's list would be the great works of Shakespeare, Chaucer, Dante, Darwin, and Twain. These are books you want on your bookshelf. Books you want your children and their children to read. And now you can have them—the ultimate private library.

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Letters to the Editor

Mexican Revolution

Dear Sir: Mr. Johnson's article in your July issue was a fine survey of an otherwise obscure area of Latin American history. However, his reference to "Malinche, the Indian girl" who served Cortés is not correct. In Bernal Diaz' *The Discovery and Conquest of Mexico,* the term refers to Cortés himself. The name he gave his Indian consort was Doña Marina.
Danton A. Ponzol
Allentown, Pennsylvania

Malinche's name was believed to be originally Malinali (the name of the 12th day of the Aztecs' 20-day month, probably her birthday) Tenepal (a person who is voluble and animated). The Spanish christened her Doña Marina, which to the Indians was Malintzin, because they had trouble with the letter "r," and the suffix "tzin" denoted a person of rank. They also used the name of one member of a pair for the other, so Cortés was Malintzin too—pronounced Malinche by the Spaniards. Ed.

Dear Sir: My father, Bartow White Van Voorhis, was manager of *El Hacienda Canadá* just north of Monterrey, where I was born in 1912 and where we lived until 1916. I have my mother's letters to a relative in New York, filled with hair-raising stories of battles, with our house between whatever armies happened to be fighting in the neighborhood. Carranza and Pancho Villa both used my father's office for their headquarters at various times; many of the generals mentioned by Mr. Johnson were at our hacienda during those years. They were invariably courteous and friendly, and protected the hacienda from both pillage and burning.

My parents never once considered leaving and felt a responsibility to keep the hacienda providing food for Monterrey, which more than once during those years was close to starvation. My parents dearly loved Mexico and Mexicans, and had great respect for their efforts to try to achieve a government responsive to the needs of its people.
Cecilia Van Voorhis Wood
Newmarket, New Hampshire

Dear Sir: William Weber Johnson's article on the Mexican Revolution called to mind photos of some of the participants and events which were given me by a roommate when I lived in the Washington, D. C., area. He had been offered them by an older lady he picked up while driving a cab. One of them shows Pancho Villa's *pistolero,* Rodolfo Fierro [below, left, with Villa]. What became of him?
Micki Slingerland
Nashville

Marching slowly toward Sonora with Villa's troops in 1913, Fierro became impatient and decided on a shortcut through what appeared to be a dry lake bed. Instead, it was quicksand and he and his mount sank rapidly out of sight. Their quick descent was due, some said, to Fierro's pockets being stuffed with gold. Ed.

Gulbenkian

Dear Sir: I was irritated by your references to Mr. Gulbenkian. Those qualities he possessed were not Oriental, but were Armenian! Armenians have Western brains and Oriental emotions. They are multitalented, artistic, practical, with great ability in languages. It's this combination of traits that makes them the negotiators that they are, able to deal with any nation and its leaders.
D. Fitzgerald
Studio City, California

Dear Sir: "Mr. Five Percent" awakened old memories. I spent many months in correspondence with Gulbenkian working out details of a biographical piece for *The Saturday Evening Post.* Negotiations broke down when the *Post* refused his request to see the final typeset version.

I saw him in Paris shortly before he died. It was sad to hear him explain how the jet flight from Lisbon had injured his heart and proceed to explain how aeronautical experts were planning the flight back at lower altitudes.

I recall an article he wrote in the 1890s in which he predicted that oil would fuel the engines of commerce on land, on the sea, and in the air.
Brownlee Haydon
Pacific Palisades, California

Beppu

Dear Sir: I have always believed that a hot soak can do wonders for the mind, body and soul.

The Japanese have found ways of resting the inner being, using only the surroundings they inhabit. I envy Beppu for its simple means of easing tension. I dream of visting the Land of the Rising Sun, and when I do, you can bet that Beppu and its "hells" will top my list.
Reynolds M. Anderson
Ogden, Utah

Sports science

Dear Sir: Those who earn their livelihoods in university physical education departments have to appreciate the strides made in sports science, but behind all those white coats, test tubes, treadmills and computers burns a live and significant issue.

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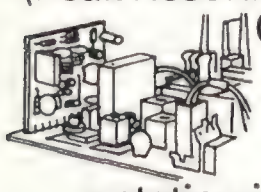

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colleges and universities are allotted a disproportionate share of institutional funds, staff and publicity. Now we can expect a similar disproportionate allotment of good minds and expensive laboratory equipment directed at improving the performance of the same elite minority.

Only when universities start to take seriously their obligation to provide quality instruction in basic sports skills for the general student population, to fund well administered and equipped intramural programs, and to graduate students with physical education degrees who are competent to teach kids about the joys of sports, will this university physical education professor grant his college the luxury of "sports science."

Shirl J. Hoffman
University of Pittsburgh

Dear Sir: Jay Stuller comments that the American College of Sports Medicine continues to support scientific involvement in athletic training "with a wide range of Physicians and other specialists as members (including dentists, podiatrists, osteopaths, even veterinarians)."

Osteopaths are full-fledged physicians, fully licensed as such in all states.

Douglas Migden
McKinley Park, Alaska

Dear Sir: Regarding Jimmy Connors' tennis serve: Jimmy is left-handed.

Harlan W. Worthley
Kill Devil Hills, North Carolina

The computer analysis tracing of Jimmy Connors was done on a digitizer, using a rear projector, and so appears as a mirror image. Ed.

Rein in Spain

Dear Sir: Although I, too, have learned not to use phrase books, they do provide amusement and food for thought. My favorite, published in London in 1956, has six languages in six columns across the pages. The list of foods is exotic, to say the least, as it includes crystallized fruits, jugged hare, marzipan, mushroom ketchup (whatever *that* is), plover's eggs, ptarmigan and sea kale.

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Or, "Shall we take the children to the circus?" Is it possible that a couple has produced offspring and still requires a phrase book to speak to one another?

The prize goes, however, to a 19th-century book of useful phrases in Egyptian: "Dragoman, I fear the lead bearer has been eaten by a crocodile."

Barbara S. Wright
Amston, Connecticut

Dear Sir: Cyra McFadden's witty article reminds me of a book of useful Polish/English expressions I bought in Warsaw in 1946. Two come to mind: "It is difficult for an Englishman to speak Serbo-Croatian" and "I do not speak Turkish."

I can still say the second one *(Nie mowie po turecku)*, but I've never had a chance to use it.

Everett Coe
Berry Creek, California

Letters to the Editor

Dear Sir: Referring to the lyrics of *Everybody Works but Father,* mentioned in your letter on Revolutionary bones, another version of the fourth line is *Smoking his pipe of clay.*

This evokes the following observances regarding clay pipes: Short ones were called "T. D."s (I don't know why); the long-stemmed, "churchwardens"; on the ceiling of the late, lamented Keen's Chop House in New York City hung hundreds of clay pipes, many smoked to blackness by the famous who dined there; and the best part of smoking a clay pipe was that, if you dropped it, you didn't have to bother to pick it up.

Herman S. Maraniss
Palm Beach, Florida

Phenomena (gasohol)

Dear Sir: Your June issue perpetuates several misconceptions about grain alcohol. Contrasting the energy balance of alcohol production with that of gasoline implies that there is a choice to be made between producing one or the other. We need to produce both. Our domestic petroleum production is on the wane, and our nation faces a double-barreled threat from the possible cutoff of foreign oil and the massive dollar drain to pay for those imports. Any domestic fuel we can develop to reduce imports should be pursued.

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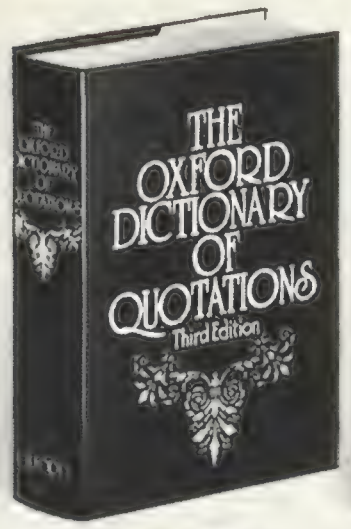

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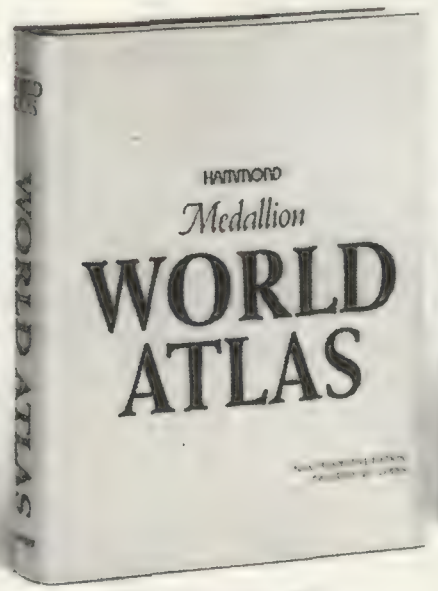

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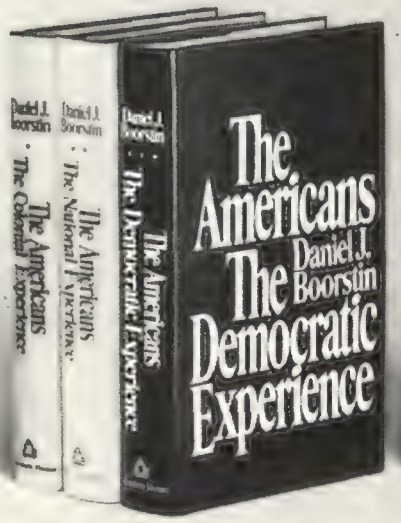

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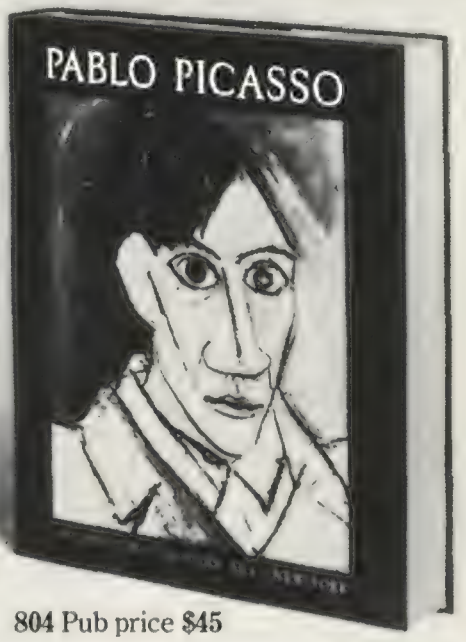

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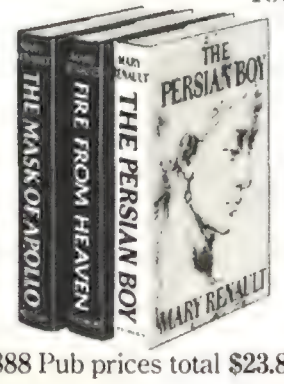

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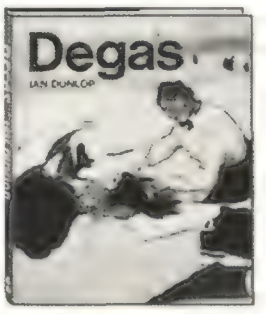

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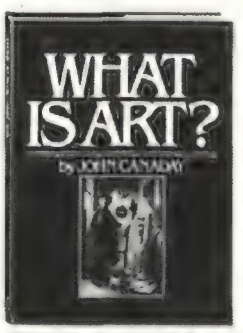

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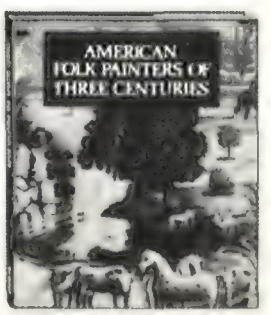

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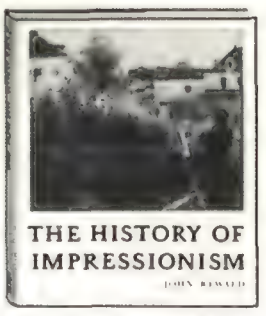

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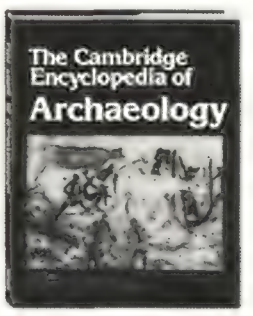

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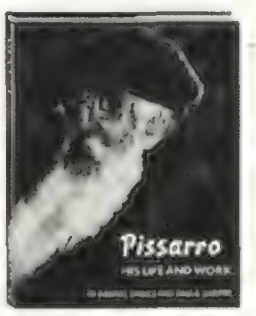

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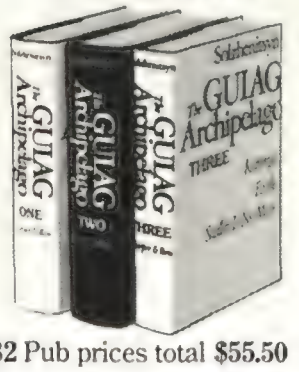

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tional Alcohol Fuels Commission indicate we can increase the production of alcohol from grain 25-fold over present levels and still not affect significantly the cost of food to Americans or our ability to supply food grain to the hungry of the world. Already distilleries are being planned to convert sugar beets, potatoes, grain sorghum and other crops into alcohol. In the near future we will have perfected a commercial process to make alcohol from cellulose. Grain-based alcohol production is only a necessary first step in creating a brand-new industry that soon will be making far more alcohol from other sources than it ever did from grain.

The argument that alcohol production wastes energy also needs careful examination. The real test of any synthetic fuel's contribution to easing the nation's energy shortage is not simply total energy in versus total energy out, but rather how much petroleum-based fuel is displaced. No one criticizes electric utilities because they burn three calories of coal for every calorie of electricity produced. The same logic should apply to alcohol.

Senator Birch Bayh, Chairman
U.S. National Alcohol Fuels Commission

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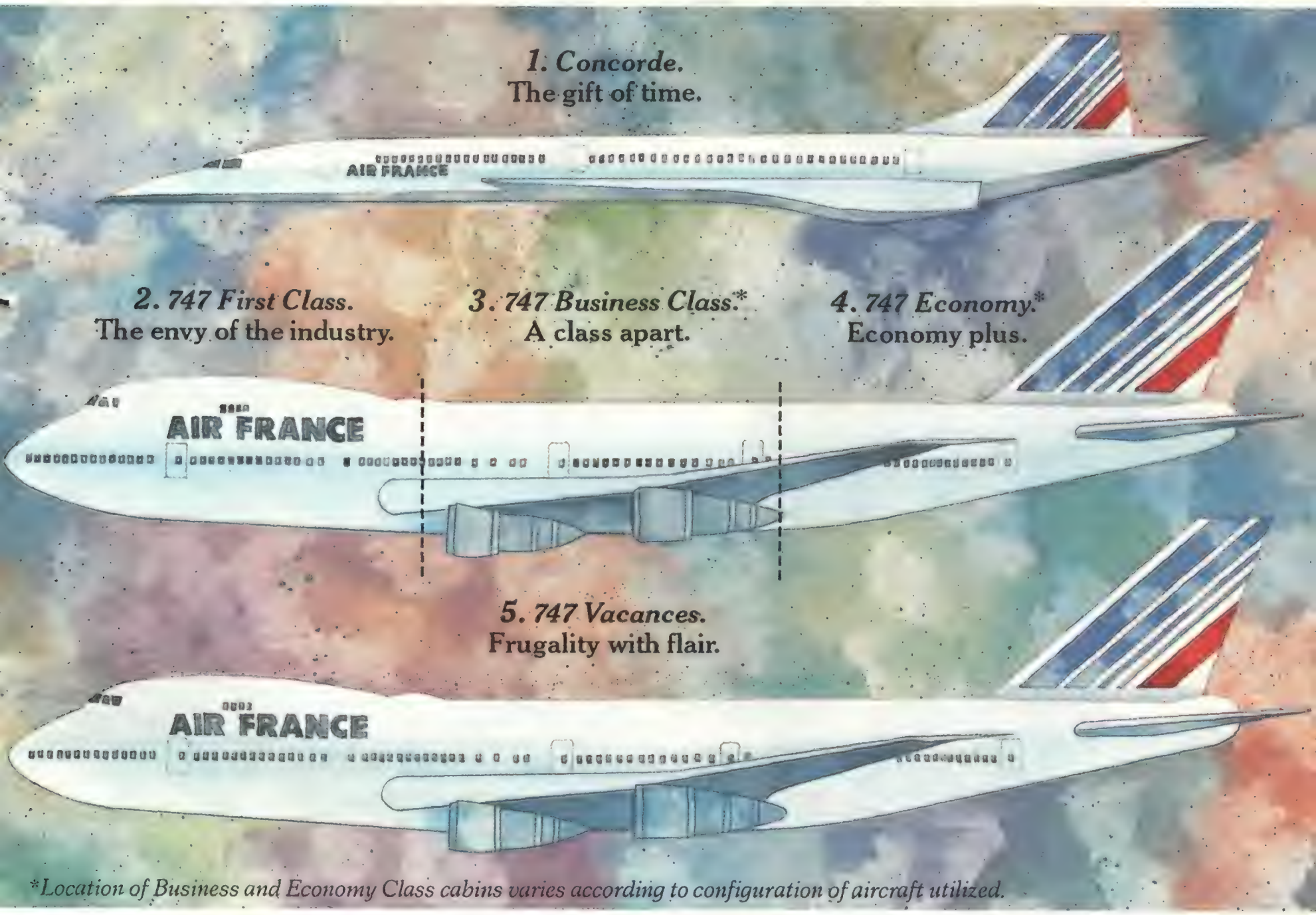

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As anyone who has been house hunting can tell you, houses are expensive. They can also be costly and time-consuming to maintain. As a result, many people are turning to condominiums as an affordable alternative. During the last decade, the total number of condo units has increased nearly tenfold, to over 2 million units, and most experts expect the condo trend to continue.

WHAT IS A CONDOMINIUM?

A condominium is a form of ownership in which you own your unit as well as an interest in the common property and community facilities. Condo fees are charged to each owner for the upkeep of the common property and payment of other common expenses. Condos can be any size or style, including apartments, townhouses and even single family homes.

WHO'S BUYING CONDOS?

The list of condo owners includes all kinds of people—single and married, young and elderly, with and without children, suburbanites and city dwellers.

The children of the post-war baby boom, now in their 20s and 30s, are already house hunting in force, or will be soon. With higher house prices and fewer rental units available, many of these people will be looking at condos.

COST AND RESALE VALUE

In 1979, the average price of a condo was about $57,000, compared with about $65,000 for a new single family home. And the resale value of condos has been increasing almost as quickly as the resale value of houses.

FINANCING A CONDO

Financing a condo is like financing a house in most respects. Whether you qualify for a mortgage depends on many factors: your income, your credit history and the prevailing interest rates.

You may have to shop around a little more for condo financing, because not every lender will be interested in making a loan in the condo community where you want to buy. The lender is, in a sense, investing in the whole condominium, not just in your unit, so he must research and evaluate the entire project. It may not be worth the time and expense for only one loan.

OUR ROLE

That's where we come in. We're Fannie Mae, the Federal National Mortgage Association. Since 1974, we've been involved in the condo market, helping lenders establish criteria for condos and even doing some of the evaluation for them. And of course we buy mortgages on condo units, thus making more funds available for home buyers who choose the condo alternative.

ADVANTAGES AND DISADVANTAGES

Before you buy into a condo, weigh the advantages and disadvantages. Owning a condo unit entitles you to all the tax benefits of homeownership: your mortgage interest payments and property tax can be deducted from your taxable income. And you're relieved of many responsibilities: the condo's management company usually maintains the exterior of the building and grounds.

But remember, condos aren't for everyone. Despite individual ownership of the units, you're only one of many voting members in the condo community. The majority rules on such matters as whether pets are allowed and what alterations you can make. You have to be prepared for the compromises that go along with condominium living.

Condos range in style from townhouses like these in Birmingham, Alabama, to high rises such as Marina City in Chicago. Condos are often less expensive than single family houses.

QUESTIONS WORTH ASKING

Condo ownership can be somewhat more complex than home ownership. So ask a lot of questions about how the condominium is managed, about the builder's reputation, about the quality and condition of the plumbing, electrical and heating systems. Make sure the condo's budget provides an adequate reserve fund for unexpected major expenses (a leaky roof, a bad furnace, etc.).

It is a good idea to have a knowledgeable attorney go over the key legal documents with you. You don't want to be surprised after you've signed on the dotted line.

WHAT IS FANNIE MAE?

Fannie Mae, the Federal National Mortgage Association, is a shareholder-owned corporation which helps meet people's housing needs by supplying money to the home mortgage industry. We do not make loans directly to consumers. But by purchasing mortgages from local lenders, we replenish their funds for further lending.

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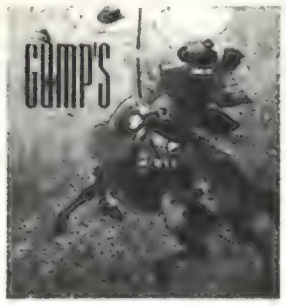

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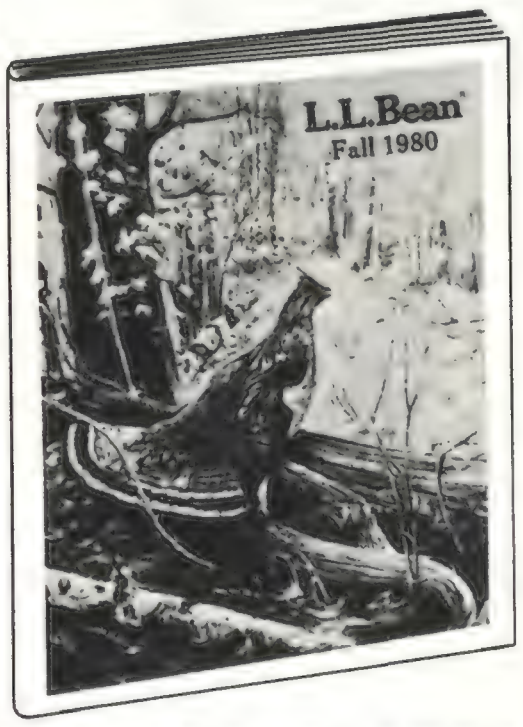

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Phenomena, comment and notes

An enigmatic star, dilettante dabbling in theories of gravity and how to turn the family chariot into a wood guzzler

Just suppose that sometime during this decade the bulk of our foreign oil supply is cut off. And suppose there you are, with your "nonessential vehicle" rusting away in the driveway. And, finally, suppose someone offers you a little charcoal cooker on wheels that would run your car at highway speeds on corncobs, peanut hulls or wood scraps.

Harry La Fontaine and his countrymen were in that situation 40 years ago and turned to such a charcoal cooker, or gas generator as it is commonly known. La Fontaine lived in Denmark. After the Germans took over, gasoline and diesel fuel were in short supply. Denmark, like much of Europe, had to solve the problem of moving enough food from farm to town. A team of engineers, including La Fontaine, searched for a technologically new solution to the fuel crisis, but ended up adapting the decades-old gas generator to run the trucks, tractors, even fishing boats. The Danes built thousands of them, and survived the war. All over Europe, as petroleum supplies vanished, the charcoal-fired gas generator was used.

Now, La Fontaine lives in Florida. After years of answering questions about "his" generators, he has built another one, hitched it to the back of a 7,000-pound Lincoln Continental limousine and stirred up no little interest.

All the plumbing for his cooker occupies a cube no more than four feet on a side. The fuel is burned in a large, cen-

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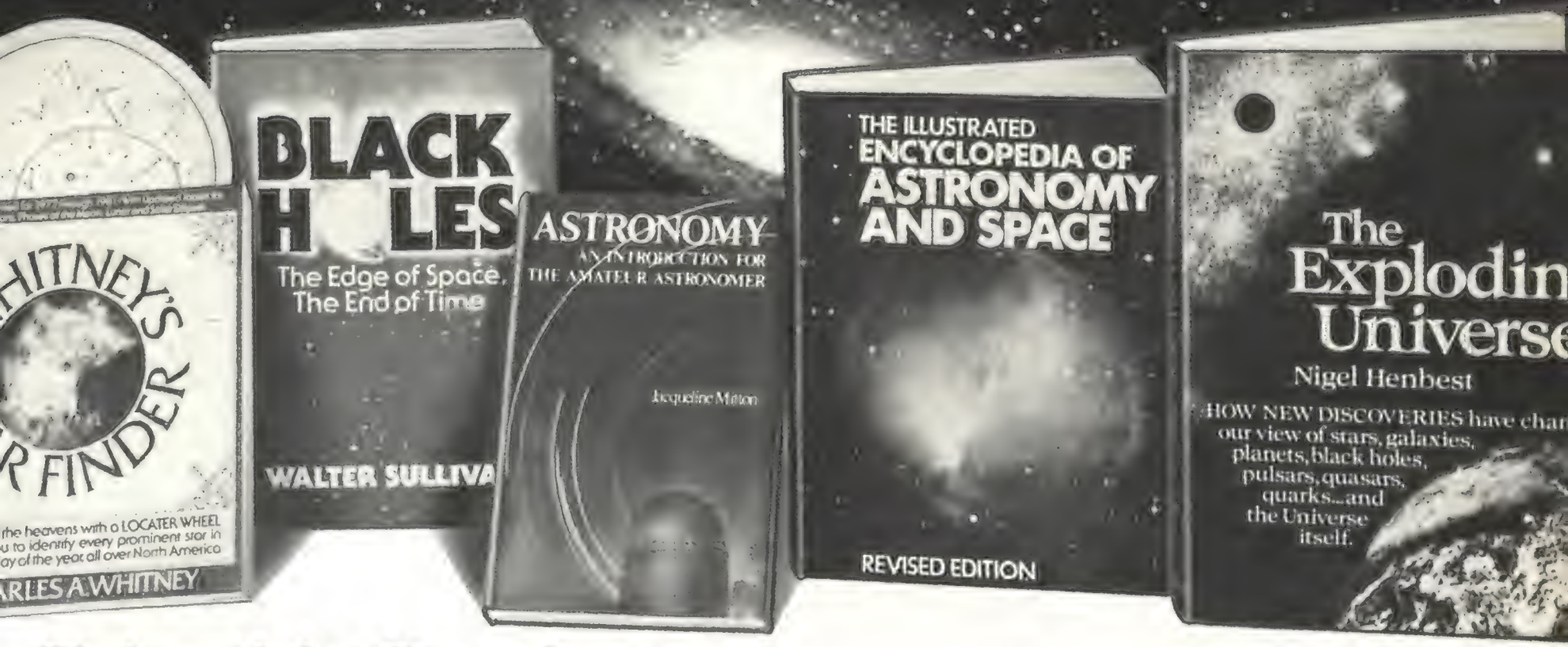

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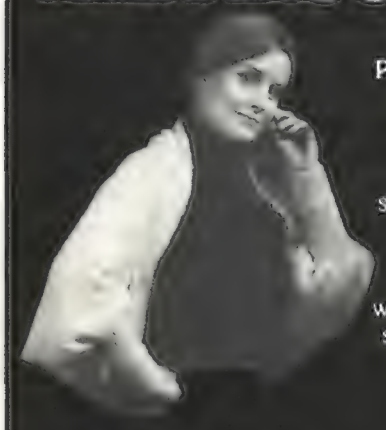

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tral cylinder; the object is to produce glowing coals on a grate at the bottom. Air is drawn through the coals; the resulting mixture of carbon monoxide and a little hydrogen and methane is then cooled and filtered, and sucked into the engine through a hose. No pump is needed; the vacuum produced by the intake downstroke cycle of the pistons pulls the gas into the engine.

It's simple, and it works. The Lincoln has no gas tank. While in Washington recently, La Fontaine reported he can drive an average of 125 miles on a load of wood scraps, or about one mile to the pound. He said the engine develops only about 75 percent of the power it does with gasoline, but in an overpowered American car that is plenty. The engine itself has not been modified.

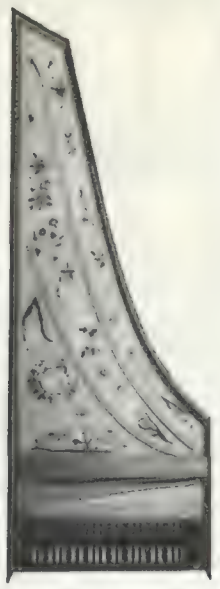
Harry doesn't expect his cooker to replace the gasoline engine. We are not accustomed to stopping every 125 miles to "throw more wood on the fire." But he argues forcefully that if our oil is cut off someday, such an inconvenience would be a very small price for us to pay to keep on truckin'.

Double-duty collectors

The sun has supplied us with energy a good deal longer than charcoal has, and it, too, looks increasingly attractive as we face an uncertain future. Some ingenious ways to store the energy when the sun is not shining have been worked out (solar salt ponds, for one, will be explained in a future issue), but we are still left with all those collectors standing idle by night.

Flat rooftop collectors of the type used for heating water are not much good for anything else, but the curved collectors that concentrate the sun's rays are another story. Their configurations make them crude but effective astronomical telescopes, admirably suited to "moonlight" at second careers when the sun goes down.

Trevor C. Weekes of the Smithsonian's Mt. Hopkins Observatory summarized the work to date for the annual meeting of the Solar Thermal Test Facilities Users Association. The idea is not new: Army searchlights from World War II have been used as both solar concentrators and astronomical detectors. But the scale has grown from the five feet of the Army searchlights to collector arrays totaling almost two acres.



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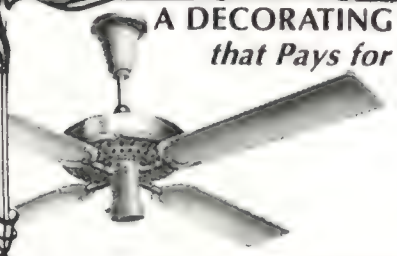

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Weekes argues that the prospect of being able to use all that expensive hardware around the clock instead of only during daylight should encourage engineers to consider minor design changes that will make double duty possible.

A question of gravity

One night years ago, I stood on the shoulder of a road in New Jersey and pushed the button on a buzzer twice. Now I learn that my two buzzes, the only data points I may ever be allowed to contribute to science, figure in current arguments that gravity is weakening, the sun will dim and things will generally take a turn for the worse.

Gravitation has been taken as constant in both the classical physics of Newton and the relativistic physics of Einstein (SMITHSONIAN, April 1980). But since the 1930s there have been compelling mathematical arguments that gravity does change with time, at a rate something like a couple of parts in a hundred billion per year. Obviously nothing to worry about on the time scale of human life, but a real factor for astronomical bodies that have lifetimes in the tens of billions of years.

Paul S. Wesson reviews the situation in the July *Physics Today* and finds the question very much open. The best evidence so far that gravity is weakening comes from watching the moon move across, or occult, the background stars. When the edge of the moon just grazes a star, the light from the star is seen to wink out as a lunar mountain passes in front of it, then wink back on. Astronomers can predict a line on Earth along which such a grazing occultation can be seen. Observers set themselves in a line perpendicular to and crossing the graze line. Using buzzers of different pitches, they signal when they see the star disappear and again when it reappears. The signals, along with time checks from the

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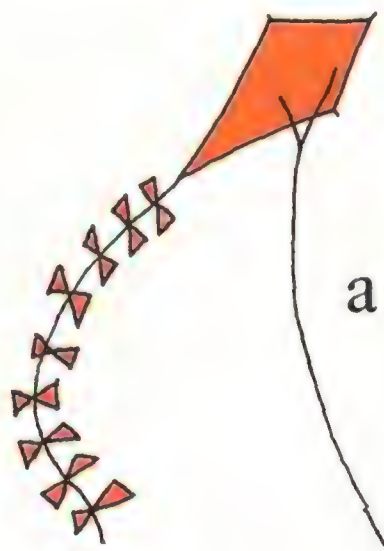

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Naval Observatory, are recorded on a single tape. And from such a tape, astronomers can work out with extraordinary accuracy where the moon was. If gravity is weakening, the moon will be moving away from the Earth faster than it would be otherwise and will be in a different place. Thus my roadside stint.

Some of the theorists posit the spontaneous creation of matter, which physicists are also trying to measure. Many also expect that if gravity weakens, planets and stars will expand. An expanding star becomes less dense, and with less pressure the thermonuclear fire in its core will slow: thus the question of the sun dimming. As for our own Earth swelling, it seems to be doing so to the tune of about half a millimeter (roughly 1/50th of an inch) per year. This does not sound like much but, unfortunately, is nearly twice the maximum called for in the theories.

It's all very interesting, but I'm afraid they are going to have to go ahead without me. After the New Jersey occultation, I signed up for the next one, predicted to take place in the wee hours of the morning across the river in New York. But by midnight the temperature had dropped to 10 below zero and I convinced myself that too many buzzers would only confuse the results.

The mystery of SS433

Astronomers are going to need all the help they can get to understand a star known as SS433, perhaps the most intriguing celestial puzzle since Jocelyn Bell found the first pulsar in 1967. This one was actually discovered in the mid-1960s by Bruce Stephenson and Nicholas Sanduleak (thus the SS in the designation) of Case Western Reserve University. But only in 1978 did astronomers realize that bright emission lines from the star showed enormous wavelength shifts.

About 10,000 light years away, the star sits in the middle of a cloud that looks like the remains of a stellar explosion; the cloud is known to radio astronomers as W50 (the W is for Gart Westerhout of the Naval Observatory in Washington, D.C.). The spectral line shifts indicated that the gas was moving at a quarter of the speed of light. Not only that, but the hydrogen lines are shifted toward both ends of the spectrum, meaning that the gas is both coming straight at us and moving directly away from us. Clearly SS433

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is, as you might expect in this column, a real phenomenon.

Next, astronomers found small shifts in other spectral lines, a sign that the star is actually a pair of stars orbiting each other: light from the visible star is shifted slightly as it comes toward us and then moves away, in this case in a 13-day cycle. The unseen star is presumed to be small and dense, a neutron star or even a black hole that is massive enough to pull gas away from its more normal companion. As the gas is accelerated toward the dark, dense star, it is excited to the point that it emits X rays. So far, this description fits any plain old X-ray binary.

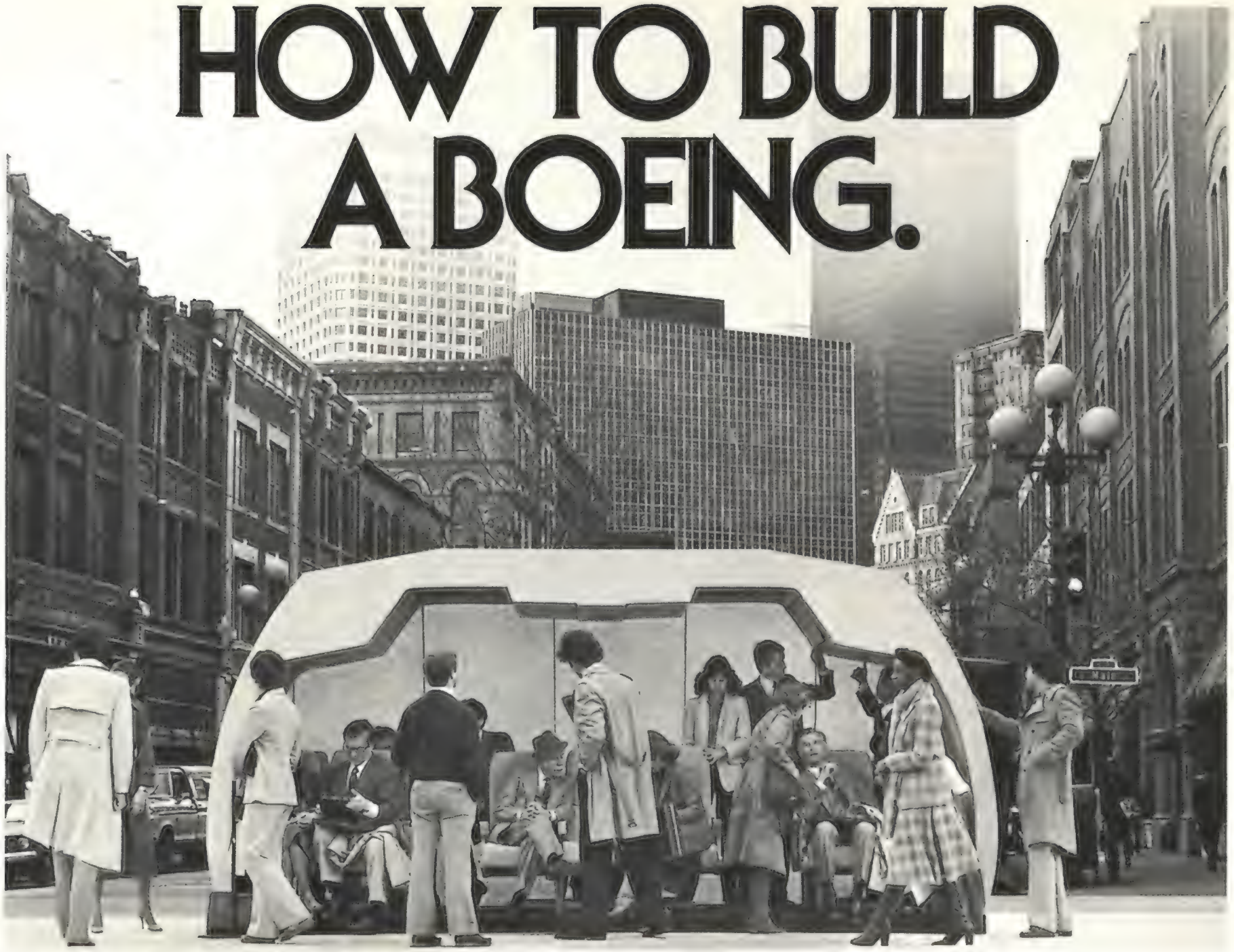
But it is conjectured that in SS433 about 1,000 times as much mass as usual is being transferred, and some gas is blown off into space in high-velocity jets. Such jets have been seen coming out of violent galaxies, but this is the first for a star. And because it is so much closer than any of the violent galaxies, astronomers have a better shot at it.

Whatever SS433 turns out to be, it has released a lot of energy in the astronomical community. As Beverly Karplus Hartline reported in *Science* (June 20, 1980), the star could be a Rosetta stone for astrophysics, enabling us to extrapolate from a binary star in our own galaxy to an understanding of the most violent galaxies in the universe. And all because a spike on a chart, showing the star's spectrum, moved a little from one night to the next.

—JOHN P. WILEY JR.

In current explanation, SS433 is a double star. Hot gas from normal star at left is sucked into invisible star at right; some shoots from poles at more than 45,000 miles per second.

HOW TO BUILD A BOEING.



The Boeing 767 is already a favorite way to fly even though it hasn't left the ground.

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The Gold dust used in this unique piece of Collector Jewelry is taken from the creek beds and streams located in one of America's oldest and most famous gold mining districts — "Gold Hill" — near Boulder, Colorado. It is slowly and painstakingly "panned" by hand in the very same way that Rocky Mountain prospectors have been collecting gold dust and nuggets ever since the Gold Rush Days in 1849 — for over 130 years.

The Hourglass shape has long been the symbol of eternity. So, a gift of this lovely Hourglass Pendant is a tender way to express your everlasting love. Whenever she wears this unique Pendant, she'll remember those shared "moments" and smile. And, after all — what pleases a woman more than the sentiment expressed with gifts of Gold and Diamonds. Whenever she wears it, it will start conversations — and give her a chance to tell others about the wonderful memories it represents.

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To assure the rarity, the Limited Edition version of these extraordinary Pendants is being restricted to just 2,500 pieces, worldwide. They are being issued exclusively through our organization, the Limited Editions Collectors Society of America, and are being offered to collectors of fine, handmade jewelry, and to those individuals who are seeking truly unique "Collector Jewelry" pieces for gift-giving.

The design (which is protected by a copyright) was created at the J. T. Inman Goldsmith workshops. Perhaps you have already heard about, or seen, some of the other original creations which have been handmade at Inmans. They are a small "specialty" jewelry model shop, located in Attleboro, Massachusetts, that has been designing and making unique, fine, handcrafted "specialty" jewelry since 1882, serving clients such as Tiffanys, Cartier, Neiman Marcus, Shreves, Halls, and other fine jewelers for many years.

These extraordinary Pendants were created by Inman's designers exclusively for us, for sale to members of the Collectors Society and to other collectors interested in participating in this Limited Edition offer. They will not be sold through retail jewelry stores or department stores, and the *only* way to obtain them is by responding to the Society's advertisement.

A Registered Edition is also available in 14 Karat Solid Gold or Gold Vermeil (Solid Sterling Silver plated with Gold). However, when the Limited Edition is completed and sold out, all dies and molds will be destroyed, and both Editions will be closed forever.

The Registered Edition can also be purchased without a Diamond — at a much lower cost. In fact, you can own one of these remarkable Pendants for as little as $125.00.

1,000 pieces of the Limited Edition have already been allocated to fill the orders which are expected as a result of a private offer being sent to the Society's own membership list. This group now numbers in excess of 8,000 serious collectors, nearly half of whom have been subscribers to our previous offers of unique "Collector Jewelry."

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There is a simple explanation for this outstanding Pendant value. The Limited Editions Collectors Society makes all of its exclusive offerings *directly to the public*. Its products are not distributed through retail stores, catalog houses, mail-order marketing syndicates, who must add "markup" to the items they purchase for resale.

Because of the very small quantity of Pendants being offered, if you wish to share a new "golden moment" with the special person in your life and commemorate those important golden moments in your past, we strongly recommend that you act promptly by mailing us your order using the coupon below, without delay. Or, better still, to be *sure* that your Pendant is reserved for you, *call us at our toll free number* - 800-225-5252 — to place your reservation before mailing your order.

OUR UNPRECEDENTED, EXTENDED GUARANTEE

Every Pendant in both the Limited and the Registered Edition is unconditionally guaranteed. We invite you to examine this unusual and distinctive Collector Jewelry piece, without any obligation whatsoever. Look it over. If you are not completely satisfied, when it arrives, send it back for a full refund. (We'll also reimburse you for whatever it costs for postage and insurance to return it.) Or, even after you have presented this stunning Pendant to that special person, if you find that she is not totally pleased, we will buy it back. In fact, due to the very limited availability of these Pendants, we will be glad to re-purchase yours any time within *one full year* from the date of your order. After all, in the long run, we don't expect Diamonds or Gold, or Gold dust or Silver to lose their value — they never have.

There is another advantage to this extended one year guarantee. You may acquire your Pendant *now — before the Edition is closed* — and still present it as a gift at a later date — such as Christmas 1980, an anniversary or birthday that is still many months away or as late as Valentine's Day or Mother's Day in 1981.

The Collectors Society is a private organization, founded by a group of avid collectors, art lovers, and historians, including some who have distinguished themselves in the fields of Arts and Letters. In addition to creating and marketing unique and exclusive fine Collector Jewelry, the Society also issues authentic reproductions and replicas of historic artifacts, plus exclusive artworks and official Commemorative products. It has received a number of important awards for excellence and has been commissioned by a number of non-profit organizations, including the Winston Churchill Foundation, the Freedoms Foundation at Valley Forge, the Old North Church Museum, and the John F. Kennedy Library Fund, to create and market their official commemoratives to collectors.

Every collector item issued by the Society is protected with a Certificate of Authenticity signed by the Chairman of the Board of Trustees of the Collectors Society. Your Certificate, showing the serial number of the particular Pendant sent to you (the number recorded in the Society's Master Registry of Ownership and microfilm library), will be sent to you within thirty days after you have received delivery. This protects your investment against inferior imitations or counterfeits and also documents the value of your serially-numbered Pendant for insurance purposes.

The "GOLDEN MOMENT" Pendant is truly a captivating piece of Collector Jewelry and a gift which she is sure to treasure always — one which will assure many more golden moments each time she wears it.

We again stress the fact that only 1,500 are being publicly offered. So, to avoid possible disappointment or needless delay, we strongly suggest that you mail your completed order coupon just as quickly as possible before the small Limited Edition is completely sold. There is also another reason for acting promptly. Due to the volatility of the gold market, we cannot guarantee the prices published here for any longer than thirty days.

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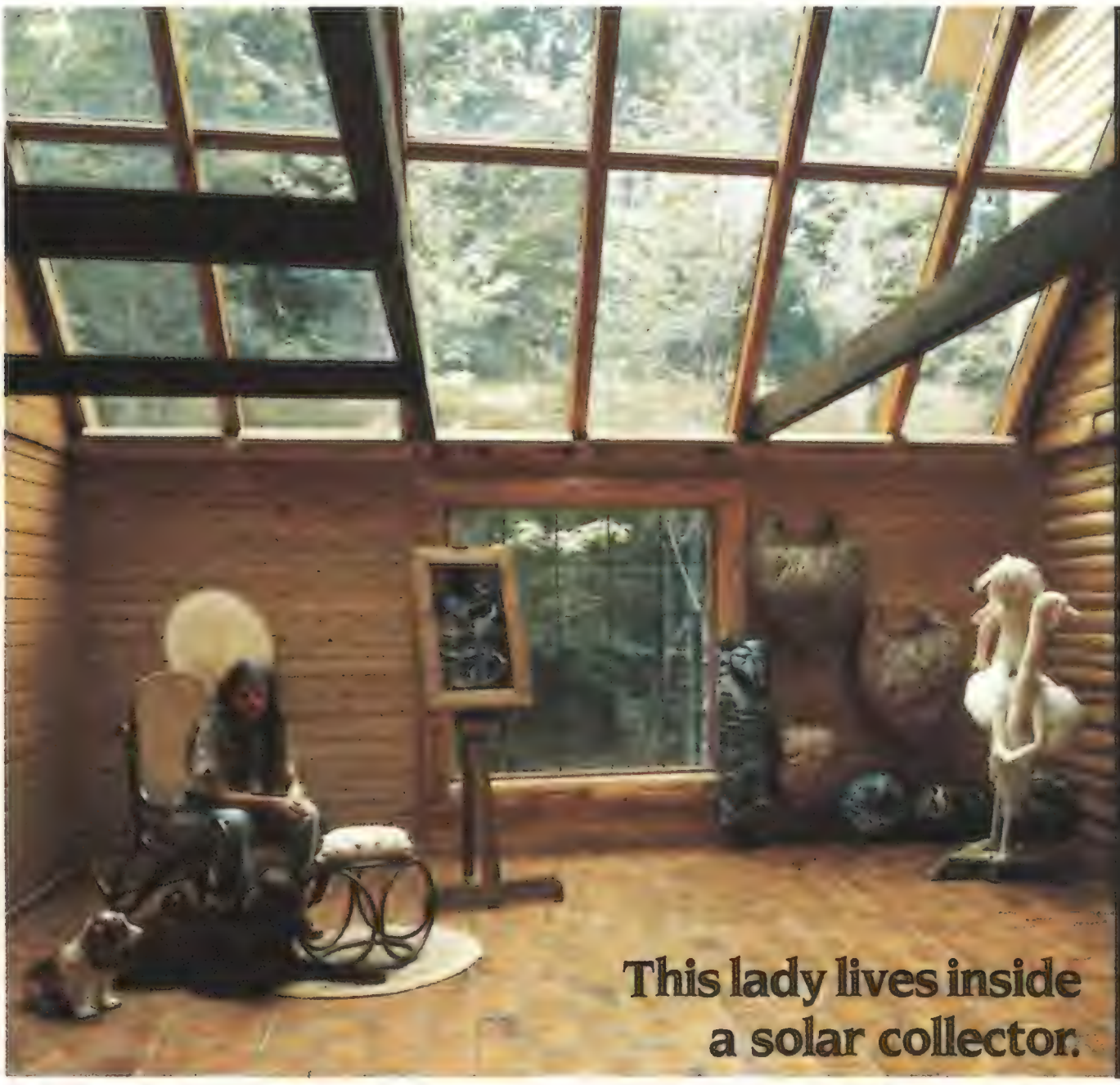
Around the Mall and beyond

In the December 1978 issue of this magazine we ran an article about the reestablishment of peregrine falcons in the eastern United States, where they have been extinct since DDT wiped them out some 20 years ago. We described the program designed by ornithologist Tom Cade. He and his crew took falcons from Cornell's "hawk barn," as the university's Behavioral Ecology Facility is called, and tried to get them started on a high ridge in the Hudson Valley. They kept track of their young incubator-raised birds through radio transmitters attached to their legs. After losing a couple to owls, they gave up that particular attempt.

Well, all through June and July, Smithsonian staff people, and a few hawk-eyed visitors, noticed the distant figure of a young man at the top of the castle's highest tower, gazing at the sky around him with binoculars. They have noticed also small flurries of chicken feathers drifting down from another large, square tower. A few lucky ones have seen, once in a while, the sudden swooping flight around the towers of a graceful hawklike bird.

The fact is, the experiment with falcons has been repeated right in the heart of the Institution. Two young ornithological students have been trying to introduce five very young falcons from Cornell to the delights of their nation's capital. They set up a feeding station on that big square tower to get the birds used to fending for themselves. This was accomplished by chucking out bits of raw chicken—feathers and all—while keeping out

Top, young falcon lands uncertainly to join feeders. Below, naturalist sets bird free after removing transmitter.



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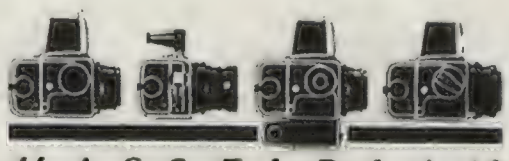

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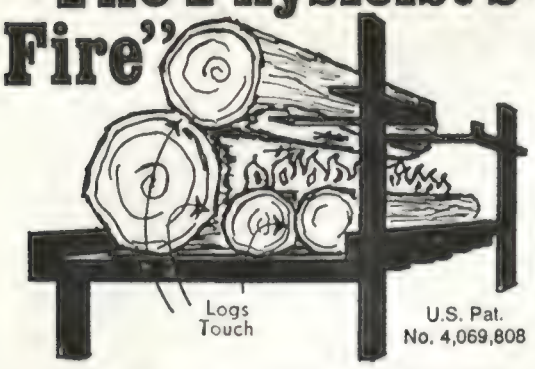

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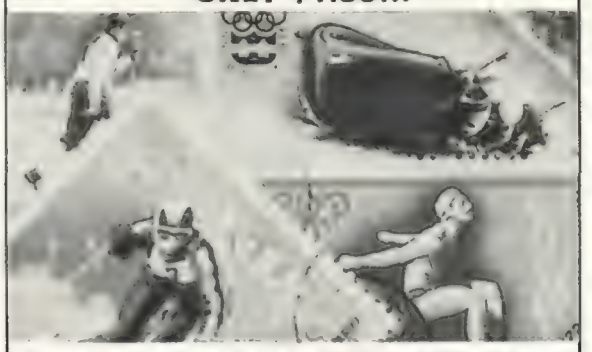

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of sight so the birds wouldn't associate mealtime with humans.

As the young birds began to learn to fly, the naturalists kept watch over them from the North Tower—the highest one where the flags fly. Falcons learn to fly the same way people do, by making lots of mistakes and profiting by them. They don't get any dual instruction, though. They sit around talking to each other about flying until one of them gets up enough nerve to give it a shot, and then they watch as this pioneer takes it once around the field, so to speak, fluttering frantically, banging into things, trying desperately to get back on the landing strip without piling up.

Everybody watched all this except me. I was always just too late or came to look at the wrong place or on the wrong day. I would get word that two of the five birds were on the roof of the very building where this magazine is produced, gnawing at some ancient, nicely ripened chicken wing that had lain in the sun until it had become quite irresistible to young falcons. "They're right outside our window," someone would inform me from the top floor. "They're glaring at each other. Now one is half-spreading its wings to keep the food to itself. Now it's tearing off big strips of—yecch!—old raw chicken. . . ." And I would storm upstairs and hurl myself panting toward the window and someone would say, "Oh, too bad. You should have been here just a moment ago."

At last I accosted the two young naturalists and made a date for an early morning bird watch, this time on the outdoor balcony of the Hirshhorn Museum. On a sultry early morning I packed some ancient binoculars into the car and drove to the Smithsonian. And like all good bird watchers I kept faithful and detailed notes of what happened. Here they are:

Mixed bag of news on car radio. Reagan picked Bush instead of Ford. How about that? Record high temperature for Washington yesterday. 103 F. Severe thunderstorm watch.

Park at five to eight. Hurry to Hirshhorn. Wave ID card imperiously at guard. He tells me, equally imperiously, to sign in. Arrive on second floor and find the balcony. The two naturalists are there—Sean Morgan and Larry Morrisette—armed with their optics. So is Ted Rivinus, director emeritus of Smithsonian

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Press. So is a tall girl with a nice smile wearing green running shorts with "Dartmouth" on them.

I am greeted politely. "There was a little action about six o'clock," says Larry. "Nothing much since then."

"We think a couple of our birds are behind the North Tower of the castle," says Sean. I raise my binoculars. "You can't see them from here," he adds.

"I saw a couple of cowbirds," says Ted Rivinus. "And there are lots of swifts around," says the Dartmouth girl.

We wait. Talk is desultory: the relative merits of different brands of binocular. The relative merit of George Bush. The heat wave. And of course the falcons. Cities are a good environment for them, say the naturalists. High ledges to roost upon; few owls; many pigeons to prey on.

"Had four here in Washington last year, at the Department of the Interior," says Larry. "Later, two of them were found dead. One was about 200 miles away, in Pennsylvania."

"Then there's one in Baltimore," says Sean. "A falcon—that's the accurate name for a female. Last year a tiercel—that's a male—was introduced to her. They seemed to make friends. They'd fly together. They were last seen together flying wing to wing, going behind a building. But she came back alone. It was as though she had been seeing him off."

The Dartmouth girl says "Wow," quietly. We are all silent. I stare through my binoculars. I see swifts darting above rooftops and starlings winging purposefully toward patches of Mall that are rich with cookie crumbs and spilled popcorn. We all jump when a big, dark bird flashes above the roofs and crazy peaks of the Arts and Industries Building.

"Crow," says Ted Rivinus.

"Our birds are finally starting to fly pretty well," says Sean. "They had a lot of trouble at first. Cross winds. Hot air rising off the roofs. One falcon stalled out about 12 feet high and crashed into the top of the tower. You could hear the thump two floors down. She was OK."

Having spent long afternoons trying to get a small Cessna onto a hot airstrip without damage to landing gear or pride, I sympathize. It occurs to me that at least young peregrines don't pay 40-odd dollars an hour for dual flight instruction.

We jump in unison at the sight of another bird, flapping around a tower.

"Pigeon," says Sean. "Did they tell you how one of our birds got a pigeon?"

No one tells me anything, I explain.

"She was on a ledge at the castle, and we noticed her looking over her shoulder, out and down at something we couldn't see. Then she began bobbing her head the way they do when they're excited. Up and down. Faster and faster. And then suddenly she spun away and dived right out of our sight. Gone in a flash. We hurried down to the ground floor and there she was, munching on pigeon, one foot holding the body in place. We don't know if she hit it while it was perched on another ledge, or got it in midair. It's pretty hard for a falcon to bring down a pigeon in flight. Pigeons are shifty."

Long silence. "What else will they eat in a city," asks Rivinus. "Rats?"

"I thought it was only birds," says the Dartmouth girl.

"Right," says Larry. "They don't usually try to take ground animals. I'm going to get some sack," he adds. "Been

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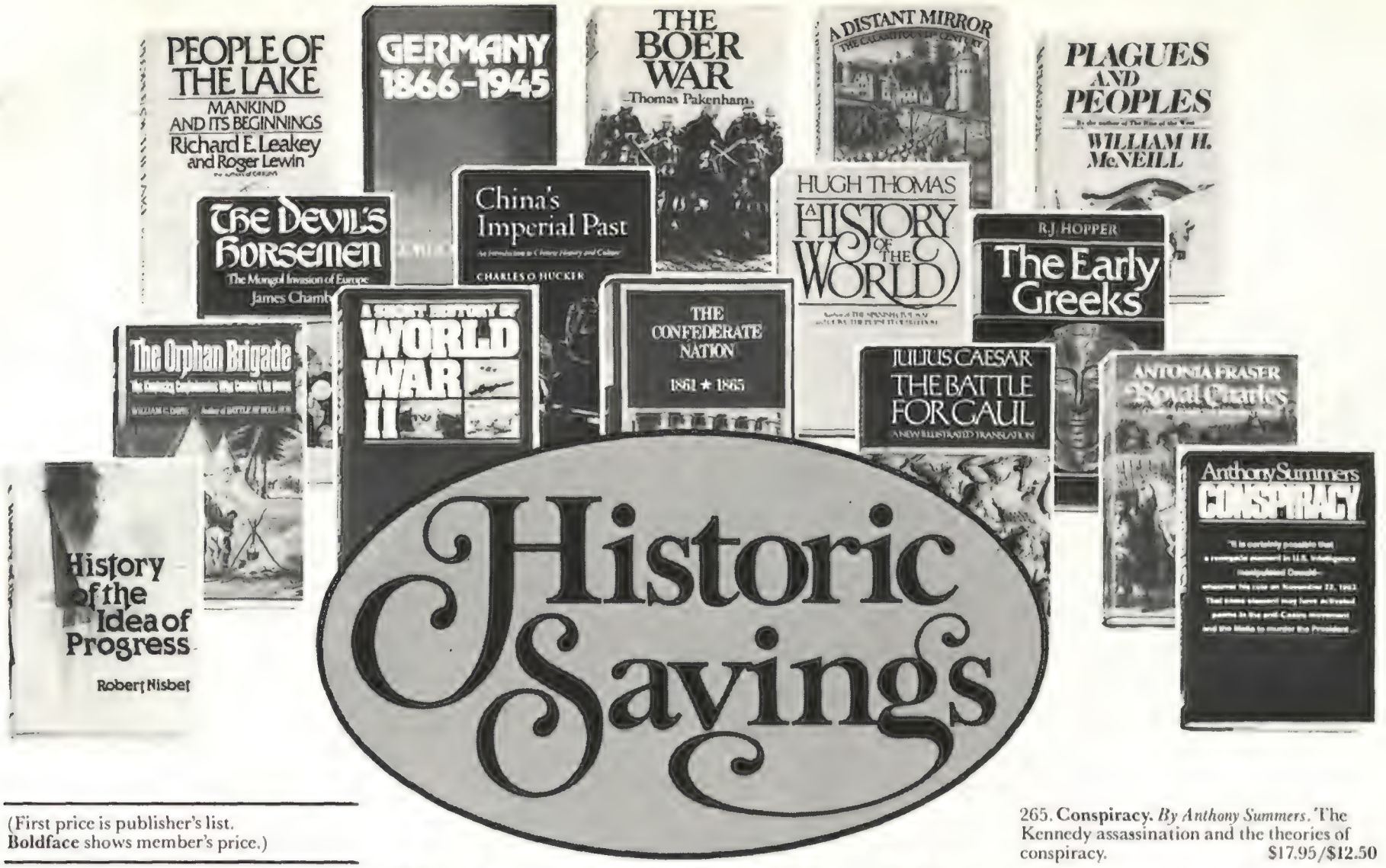

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here since five." He wanders off. In a moment we see him down on the Mall, heading back toward the castle.

"You can see a lot of things here beside birds," says Ted Rivinus.

"Girl sunbathes in a bikini every noon," says Sean. "Funny to see how young guys leave the paths they're on and make a detour near her."

We wait quietly, watching skies, roofs, towers, trees, ledges. "You should have been here yesterday," says Sean.

"I know," I say.

Dartmouth girl looks at her watch and says goodbye. In a moment we see her heading toward her job, now wearing a skirt, her running shorts stowed in a green ski pack.

"Dartmouth's a lot better than when I was at Princeton," says Ted.

Silent agreement. Two English sparrows dance toward us on the balcony.

"Pretty hot for our birds to fly," Sean says. "They'll probably just sweat out the rest of the day."

I look at my watch and say goodbye. As I swing through the second floor of the Hirshhorn, past a silent audience of sculptures, a guard notices my binoculars.

"You been looking at them hawks?" he asks.

I pause for only a moment before saying "Yup."

A delightful young woman who works in the magazine office, Leslie Morgan—no relation to Sean—ran a message to Wilton Dillon, the director of the division of symposia, whose office is in the big square tower of the castle, right in peregrine country. Being new, she took the wrong elevator, and when she pushed the required floor number, she found herself deposited in a dimly lit room far up in another tower.

She had left the elevator, and when she saw her mistake she turned back toward it. And of course it mysteriously closed its own door and vanished, leaving her in this chamber, windowless, uninhabited. She looked around a little tremulously and found it was an office, complete with desk, chair, shelves and cabinets. Everything was thick with dust as though no one had been here for decades, perhaps a century.

Yet the room had certainly once been used. It bore no outward signs of humans —no disturbance of the dust—but it had an aura of former use, a sort of echo of old decisions once made there, a vibrancy perhaps set off by an accumulation of mental pressure.

Leslie looked about wide-eyed, feeling it, and simply leaned on the elevator button. And of course it eventually returned for her, and she found Wilton Dillon's office. No one seems to know exactly where she was in that vast, complex and confusing old building. And she says she isn't going back.

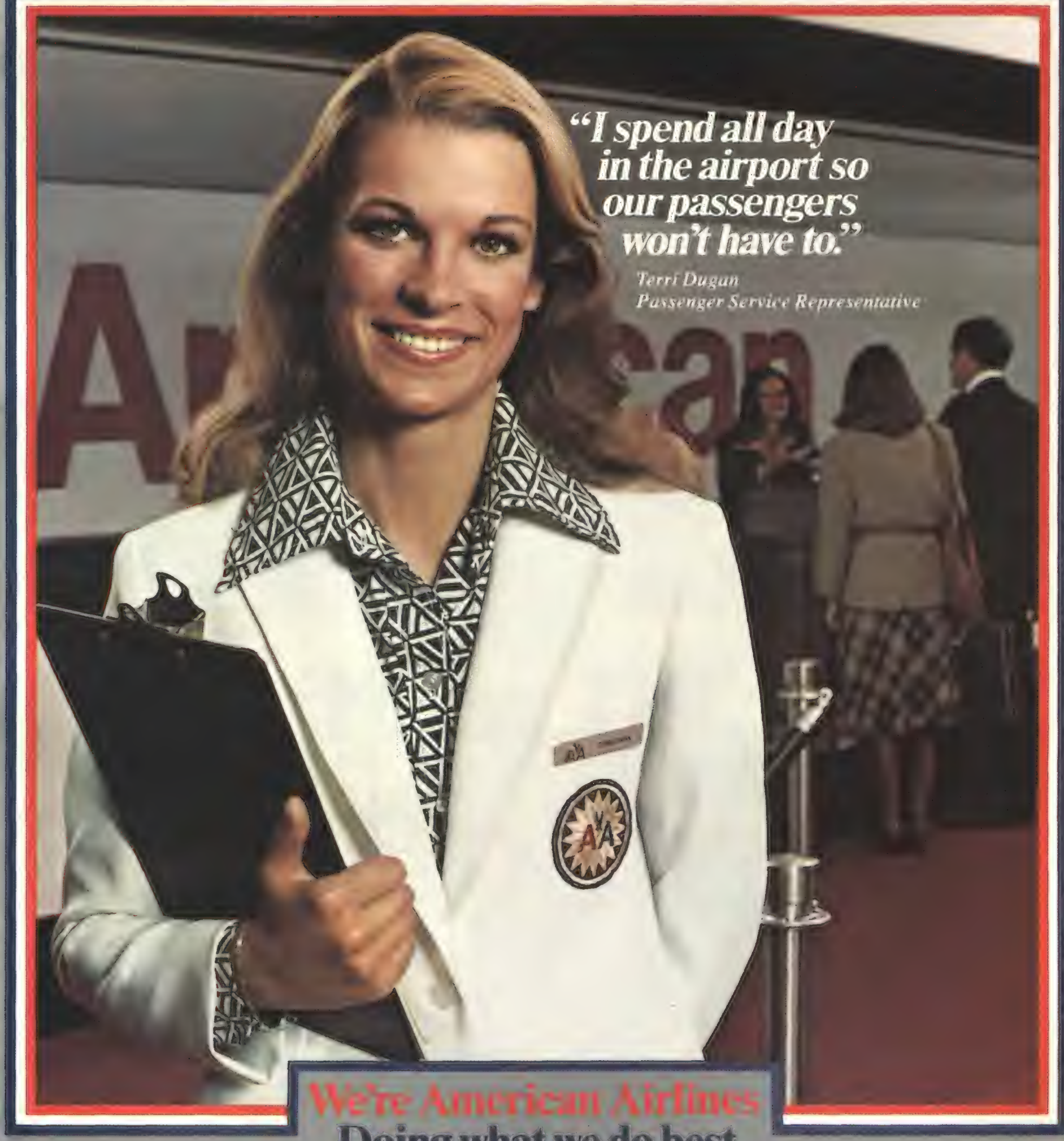
Starting on the 26th of this month, the Museum of Natural History will display about 50 paintings of Louisiana's native flowers. They're not by Audubon, though in draftsmanship and meticulous detail they are reminiscent of his work. But these are new works, part of 200 watercolors commissioned by Louisiana State University. The artist is, however, not from Louisiana. She's an Australian, living in Britain: Margaret Stones.

I talked briefly with Miss Stones while she was visiting the museum to arrange her show. She said that the notion of showing her work in a natural history museum turned her off at first, but after she saw that huge white pile of stone with its echoing rotunda surrounding the elephant, she got very enthusiastic about the project. Her pictures will go up on the third floor rotunda gallery where the Ward statues of native Africans—the bronzes whose toes are all shiny after being furtively touched by millions of schoolchildren—now reside. The statues, it turns out, are on wheels and can be rolled away. But don't let's hear of any schoolchildren trying *that*.

Margaret Stones studied art in her native Melbourne, then moved to London to see if she could hack it at the Royal Botanical Gardens at Kew. She could, all right. She was discovered by LSU (and vice versa) through one of her paintings, which charmed a member of the faculty. The university signed her up to do 200 state flowers over a ten-year period after first commissioning six as a way of marking the Bicentennial. A good way, too.

Miss Stones doesn't work in the field. She sits at home and works from plants in vases, right there on her desk. She can do this, thanks to air freight, even in London, but she loves Louisiana and the campus, and spends part of each year there as "visiting artist."

Our display of watercolors from the Stones collection will last two months.



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As I brought the manuscript for this column into the office, early on another sultry morning, I was disturbed by a distant noise, a haunting cry that seemed to fill the air around the Victorian Garden through which I was passing. At last, with a burst of inspiration, I looked up, straight up into the hazy, hot sky which we so often overlook. And it seemed full of falcons—surely there must have been all five of them—swinging above the castle, darting and soaring and hovering in wondrous knowledge of flight.

I watched (and so did half a dozen others) in awe as they showed off their new accomplishment. They were no longer the fledglings of June, perhaps 40 days old, unable to maintain a decent flight, confused about landing into the wind, easily judged in terms of human pilots. Seemingly overnight they had shot ahead of any expertise a human could reach. They had become creatures of the sky.

As I watched, two paired off over my head and played together in a sort of aerial dance, darting at each other with shrieks of obvious delight, pirouetting, touching talons, half-rolling, half tumbling through the air, catching themselves with a flick to become, again, superbly in control.

So, at last, I have seen the peregrines and can put them in my own perspective. In the jargon of pilots, they are very hot indeed. Exuberant aces, every one, far beyond Man's experience.

—Edwards Park

Sunflowers, at Natural History Museum, is one of paintings by Margaret Stones.

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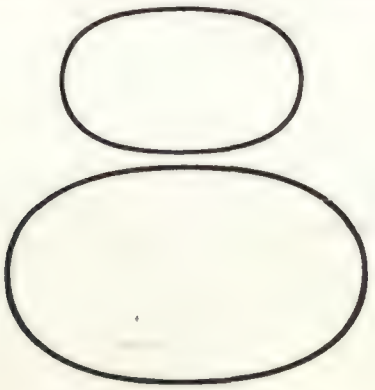

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By William H. MacLeish

Our barrier islands are the key issue in 1980, the "Year of the Coast"

The lure of owning a piece of the wild beach is turning ribbons of sand into urbanized resorts, despite many warnings of potential disaster

The hurricane party scene in John D. MacDonald's novel *Condominium,* about people living in a barrier-island high rise on the sun coast of western Florida, ends in a moment of terror:

"She felt the slowness of it. Feet crushed her back against the glass. Realization came more than once. It kept exploding in her brain over and over, erased each time by her disbelief, as the tall building, its seaward supports exposed, undermined and crumbling, leaned slowly slowly slowly into the huge wind that for a time held it in balance. Then it leaned past that point of equilibrium and crashed, unheard, into the black and white turbulence of the huge hurricane waves and was there broken apart and dispersed over the floor of the Gulf and the sugary beach."

It is fiction. Someday something like it is bound to happen on a real barrier. There are some 300 of these sand ribbons fringing the U.S. coast from the Mexican border along the Gulf and up the Atlantic to New England. Most are islands, some are spits hanging from headlands, and others are beaches running across the head or mouth of a bay. They are the sea's sparring partners, absorbing the drubbing of the storm waves, dodging, backing away. In the old days, people did not linger long on these beaches. They fished and hunted in the rich bays and estuaries and marshes behind them and scouted for salvage in their surf, but they did not stay. Today, barrier beach front is among our most prized possessions. We pay a thousand, two thousand dollars a foot for it. Through our governments, we invest millions of dollars in efforts to stabilize the moving sands and dunes that brought us to the islands' edges, only to see them move and melt faster than before. The rate of development on barrier islands is twice the national average. Galveston, Miami Beach and Atlantic City are among the earliest urbanized islands, and more are in the making.

A large part of the barrier boom has taken place during a climatic lull when severe storms have been infrequent. As a result, eight out of ten residents of vulnerable coasts have never experienced the direct effects of a major hurricane. Meteorologists are sure that things will change—the scare over Allen, in August, may be a harbinger. After all, more than a hundred hurricanes have made landfall on our beaches since the turn of the century. When things do change, it is all but certain that a big tropical cyclone will hit a heavily populated barrier island, drown it, flood its escape routes to the mainland and kill many thousands of people. That is exactly what happened to

Between windblown dunes and the sea, houses huddle at Nags Head on North Carolina's Outer Banks.

Approaches to causeway linking Galveston Island to Texas mainland are so low that hurricanes flood them.

State Senator "Babe" Schwartz, on one of Galveston's rock groins, worries that 1900 tragedy could recur.

the barrier-island city of Galveston in a 1900 storm.

Harry I. Maxson, before his death in 1967, recalled the terrible days of the September hurricane that hit Galveston 80 years ago this month: "I opened the window and heard what I didn't want to hear, a woman yelling, 'For God's sake, come and save us! Our house is falling to pieces!' . . . It was awful, so far away and still so penetrating. It made me shake all over."

Maxson was 15 then and strong, and his family's place was big and well built. He went out with others to rescue that yelling woman and her people, bringing them back clinging to splintered telephone poles and squeezing them in the back door past a horse huddling on the stoop. Later Henry was conscripted to burn bodies but was sent home as too young. He walked with his father along the railroad embankment and saw how ghouls had cut ring fingers from the corpses of women stranded there. And later, as a man, he took to telling his "long, sad" story on Thanksgiving.

Maxson's story was more than sad. The 1900 storm drowned Galveston on September 8. Waves and wind and hurtling debris killed 6,000 in the city alone and possibly another 2,000 in other coastal areas—the greatest natural disaster by far in U.S. history.

That is the extreme, the ultimate coastal cataclysm. There are plenty of lesser, chronic problems to deal with. How do we provide access to these narrow, seabound refuges without paving them over? How, in a

Port of Galveston, busy with commercial and pleasure craft, is on bay side of island with 70,000 population.

Convent stands amid rubble of 1900 Galveston storm which drowned the whole city, killing 6,000 people.

free-market system, in a country built on the divine right of the property owner, do we control growth in hazardous areas—and who is to control it? How do we manage these rich resources, these incredibly fertile environmental systems, in the national interest?

It was the search for answers to such questions that led to the designation of 1980 as the "Year of the Coast." In its observance (with apologies to the Pacific and its more modest array of barriers), I set out from Galveston to look at the chain of islands across the Gulf and up the Atlantic.

Each barrier island has its own idiosyncracies. The forces that shape it and move it are constantly in flux: the rate of rise in the sea level (now about one foot per century) as the Earth warms and ice caps melt; the rise or fall of the coastal land mass itself; the energy of the sea around the island; the quantity and quality of the sand carried to the beaches by current and waves; and the effects of human intervention.

But Galveston Island, 32 miles long, is fairly representative of its class. It has the requisite inlets or tidal passes at each end and a bay in back. It has low dunes, for the sea isn't carrying as much sand as it used to. It is itself low, less than ten feet above sea level in many places. The city is on the eastern point. After the 1900 storm, Galveston built a 17-foot seawall along the Gulf and raised the grade under the surviving buildings. The sea has stayed on its own side of that ten-mile stretch of armoring, with its promenade highway and shops and hotels. But the beach has gone and subsequent hurricanes and tidal flooding remain a problem, as does erosion (SMITHSONIAN, June 1973) along the entire length of the island.

Groins or long stone fingers running out from the seawall through the surf have trapped some of the sand in the longshore current, at the expense of downstream areas, but there is precious little beach there. The laws of the shoreface have it that a natural beach will flatten itself under a pounding sea, increasing the friction of sand surface against wave and dissipating its force. A vertical structure violates that law, and the sea hits the wall hard, scouring away at its bottom. The U.S. Army Corps of Engineers, which built it, has put down stone riprap to protect against scour, but the ocean keeps working.

On the west end are "leisure home" subdivisions, single-family homes and condominiums, second homes for the affluent of Houston, an hour's drive to the northwest. Most are raised on pilings to conform to the requirements of the federal flood insurance program, which offers cheap rates to residents of communities that agree to abide by its building codes.

The author wrote on offshore oil exploration in the December 1979 SMITHSONIAN. *He is editor of* Oceanus, *a Woods Hole Oceanographic Institution magazine.*

Houses stand askew where Hurricane Frederic washed bay-front area of Mobile, Alabama. The same 1979

A huge wave breaches Captiva Island off Florida in 1924 hurricane; early color photo is now a classic.

The stilts give the houses a shanty look, but they carry solid price tags—from $40,000 or $60,000 for a small home to $250,000 to $300,000 for a fancy one.

Unlike many other islands in the barrier chain, Galveston did not start as a pleasuring ground. It was an important port (p. 49) for a long time before the oil tankers took the bulk of the shipping business up the Houston Ship Channel. Now tourism is important here, too. Not long before Allen struck, the owner of a seaside fun park said, "You can advertise a monkey jumping up and down on the seawall and people from Houston will come and pay money to see it." He turned aside questions about hurricanes. "When was the last one? Fifteen years ago? People have always got something to worry about."

State Senator A. R. "Babe" Schwartz (p. 48) is one who worries. Schwartz is one of those short, dogged men who use verbal persistence as a heavyweight uses his left. For years he has been poking away—at governors, his fellow members on the Texas Coastal and Marine Council (of which he is chairman), and the public—talking about the instabilities of the shoreline.

Last summer, tropical storm Claudette came ashore in Texas, a raining fool. For many years, the Houston-Galveston County area has been withdrawing water from its aquifers at such a rate that the land, low to begin with, has subsided several feet over broad stretches, and as much as six feet in several areas. Claudette flooded that land. One man later reported he didn't know how bad things were until he threw his cat off the bed during the night and heard the splash. There were no warnings to speak of. Schwartz

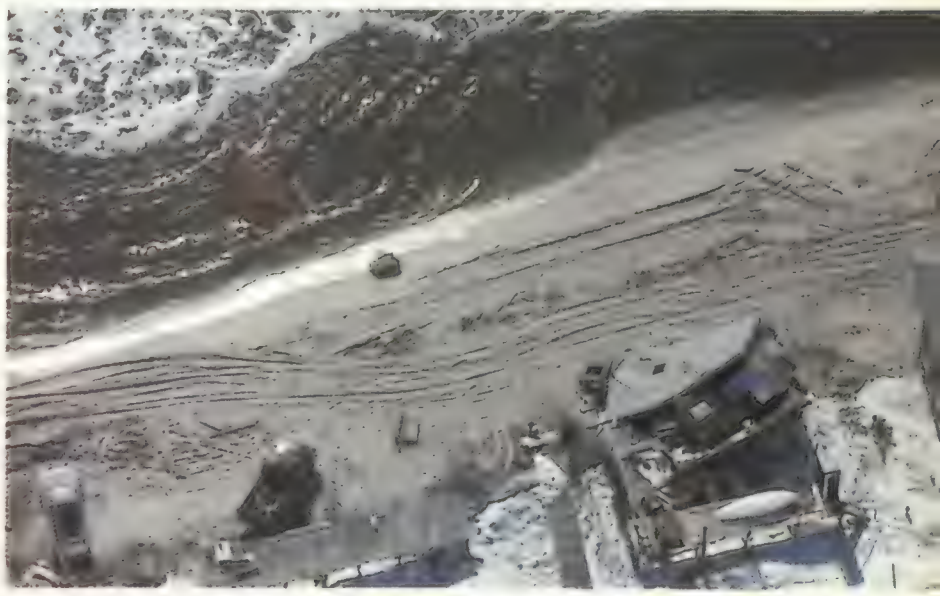
storm destroyed many of the 1,500 homes on barrier spit of Gulf Shores, did $2.3 billion damage in all.

On North Carolina coast, beach-front house topples into ocean; another will quickly spring up in its place.

was out on the Gulf Freeway, heading toward Houston from his Galveston Island home. He found himself at a flooded bridge halfway there. "There's 179,000 people on the mainland and island behind me," he says in disgust, "and there ain't a single one of them going to leave before that bridge dries out. If there's a hurricane behind Claudette, they're drowned. The 1900 storm, if reproduced, would cause a minimum of 10,000 or 15,000 deaths."

Schwartz and others, with Texas A&M University, have been developing a hurricane evacuation plan for the Texas coast, one of only two comprehensive plans in the country. (The other is a Corps of Engineers plan for Lee County, Florida.) Schwartz wants to have elevations of evacuation routes and other data computerized and made instantly available to police and evacuation authorities. "I've been making quite a few speeches about the subject of storms," he says. "It's so goddamn frightening."

Way over past the Mississippi Delta is a town that knows what Schwartz is talking about. Gulf Shores, Alabama, a resort on a barrier spit just east of the entrance to Mobile Bay, had a visitor last September named Frederic. He was not kind. He knocked down just about every house fronting on the beach. The storm surge, the dome of water under the hurricane that serves as a staging area for giant waves, was about 15 feet high and it washed completely over portions of the island, leaving behind blasted sand with the silvery look of a bone. Frederic caused about $2.3 billion in damage all told, but killed no one in Gulf Shores (five died elsewhere). Perhaps it



On Fire Island, off Long Island's south shore, winter storm erosion undermines houses built right on beach.

On Massachusetts coast, shore-front house is reduced to rubble by devastating February 1978 northeaster.

was the efficiency of the evacuation program of the mayor and his police. Or perhaps some people got out fast because they remembered 1969's Camille, the fearful one that was rated five on a scale of five—whose 24-foot storm surge and winds of more than 175 miles an hour took the lives of 144 people along the Mississippi coast—including celebrants at a hurricane party. Camille made landfall near Pass Christian, Mississippi, not too far to the west.

Seven months after Frederic left town, sand stood bulldozed in blizzard drifts. A wrecked motel gaped immodestly. Some people were still poking around for something, a piling, a pipe, to tell them where they had lived. But all along the shore front, new pilings were being driven into the sand, new plywood glistened. In a couple of years things should be better than ever. That is what Mayor Mixon Jones thinks, and he should know. He's a realtor, and proud of the fact that there has been no panic selling of property after the storm. Nearly $20 million worth of building permits were issued in the subsequent ten months. Property values didn't even falter in their climb. "People are going to live on the coast," says Jones. "And they're not making any more coast."

To the east of Gulf Shores is the Florida panhandle where the condos grow taller. There is one at Panama City Beach of some distinction, the Peppertree (p. 54). It was supposed to be one of the safest structures around, but in 1975 Hurricane Eloise excavated a couple of feet of sand and brought a serious flaw to light: some 30 pilings underneath had no concrete around them, no connection with the slab. The Peppertree now stands unfinished and unoccupied.

Development sprawls like a belly over a belt much of the way from Tampa to Fort Myers and beyond. But out to the west, across the toll bridge to Sanibel Island, there is a change. The barrier is green with mangroves and marsh. There are condominiums and motels and shopping malls, but there is space and design. Sanibel is where the wealthy and prominent have long gone for quiet. (Writers like Thornton Wilder, Edna St. Vincent Millay and Anne Morrow Lindbergh have frequented Sanibel or its adjoining barrier sister island, Captiva.) Development was moving in just as rapidly on Sanibel as elsewhere around Fort Myers. But in 1974 Sanibel incorporated as a city to curb its own growth with a comprehensive land-use plan.

As consultants, Sanibel called in the Conservation Foundation and Philadelphia environmental designer

Beach-front pool serves St. Petersburg condominium; less than five percent of urban area beaches are public.

Ian McHarg—experts at providing the facts and framing the arguments that would stand up in the inevitable court battles to come. Zoning regulations that would have permitted a population of 90,000 in full development were tightened to allow only 15,000. Developers howled, sued and lost. Sanibel's growth-control plan cost $500,000, lawsuits and all. Yet it may be translatable in some form to other rimland communities. Dinesh Sharma, a barrier-island specialist in Fort Myers, thinks the model works so well now that it can be adapted for about as little as $50,000 for other barrier islands. "It's basically a mechanical production now," he says.

There is a quiet sort of coastal underground functioning these days. Porter Goss, Sanibel's first mayor, often follows Dinesh Sharma on the talk circuit, and both of them are apt to run into perhaps the most peripatetic of them all—a burr-cut Kansan who wanted to be a basketball coach and now heads the National Hurricane Center. His base is in Coral Gables, south of Miami, but he is often somewhere else, sauntering around the condos, mobile-home parks and beaches, seeing how people live in the high-hazard strips. Neil Frank (below) is his name. He is the meteorological model of Babe Schwartz, a man so appalled by what he sees that he cannot help trying to get others to feel the same way.

The craft of hurricane forecasting advanced rapidly in the Sixties and early Seventies, thanks to fast computers and new atmospheric modeling techniques. Now there is a lull in the progress, strangely parallel to the lull in the storm cycle. The Center shoots for a 24-hour warning period, with 12 daylight hours for evacuation. At that remove, it can usually predict landfall within 100 miles either way. Longer lead times mean much larger landfall error and that is counterproductive. He who misses his predictions cries wolf.

Even 12 hours of daylight warning probably won't be enough in many cases. The classic one is the Florida Keys, which, though they protect no continent, are like conventional barrier islands in their low elevation. Back in 1935, a hurricane tore through, killing more than 400 people in the Keys. Now there are nearly 60,000 people living there; thousands of those are in mobile homes, perhaps the worst place to be

Hurricane forecaster Neil Frank sees disaster ahead for Florida Keys.

Unfinished Peppertree was found unsafe after a 1975 hurricane.

in a bad blow (the wind opens some like sardine cans and others come off their foundations in the storm surge and become lethal battering rams against nearby properties). Tourists may add an additional 100,000 at the peak of the season. The lower end of the island chain is served by a two-lane highway and narrow bridges. If everything went without accident, between 10,000 and 15,000 people could get off in the optimum-warning period.

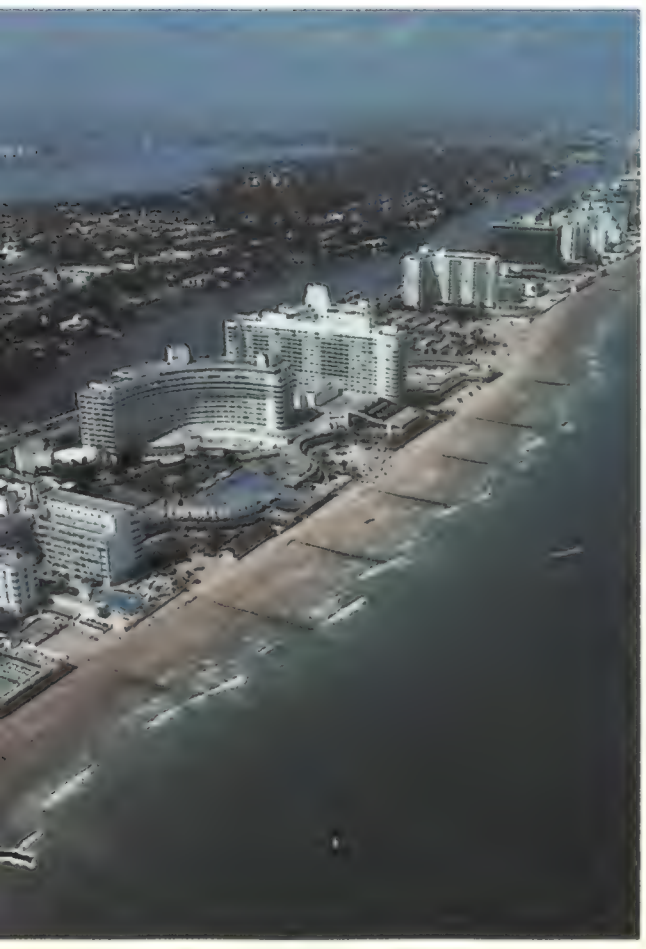
The rest? Neil Frank believes it's time we thought things through like a military commander facing a tough battle: he knows he's going to lose troops, but he wants to minimize his losses. Sometimes it might be better not to push the evacuation button, particularly when you could end up with a traffic jam miles long, stalled by a flooding highway and condemned to death by hurricane. "If you do evacuate," he argues, "you may cause more people to be destroyed than if they were back in their homes and could go up on a roof, or the top of a tree."

Or the upper corridors of hurricane-resistant high rises. Emergency planners call this vertical evacuation, and Frank thinks that if local governments and builders got together, it might work in bottlenecked places like the Keys, or Sanibel, or for that matter the southern New Jersey shore or Cape Cod. As of now, most coastal building codes simply aren't storm smart. Miami has one of the most enlightened ones, according to Frank, but it lacks protection against storm surge—the hurricane's most awesome weapon.

The City of Miami Beach, a totally urbanized barrier island that was considered a model for coastal development earlier in this century, allowed construction so close to the water that it virtually lost its beach front and most of its protection against storm surge (below). As the beach dwindled, hotels on the barrier island were left with no barrier between them and the next hurricane.

As a result, Miami Beach and communities to the north had to build more coast. They accepted an Army Corps of Engineers proposal that would pump enough sand from offshore to replenish more than ten and a half miles of beach, in effect building a new one almost 300 feet wide, hard and white (below). The project, more than half complete, will end up costing about $64 million, of which the federal share will be nearly half. Renourishment will be necessary as the sea redistributes the new sand along the coast, and that will mean another $5 million or so every four or five years, depending on erosion rates. Some Miami Beach ocean-front owners were less than enthusiastic about the project, since the restored beach is public property, but the consensus among engineers, residents and even some beach geologists is that replenishment is an expensive option but in most instances preferable to groins, jetties, bulkheads and other armor. In any event, the Gold Coast now has an albino beach, and the place is beginning to regain its tourism and character. That's just as well. Corps engineers can tell you that keeping urban beaches presentable means less pressure on what remains of the wild shore.

It's a long jump from southern Florida to the Carolinas and the Outer Banks (pp. 46-47), that great sand bow half-bent against the Atlantic. But the incom-



Miami Beach in 1977 was losing beach front despite jetties.

New beach front for Miami Beach, 1980, cost $6 million per mile.

patibilities of industrial man and wild beach don't change much along the way.

As the latitudes get higher and the ocean cooler, the brutal tropical cyclones get scarcer and another hazard comes to dominate—the northeaster. These are the long hard blows that bedevil sailors and shore communities all along the Atlantic coast—like the famous Ash Wednesday storm of 1962 that opened inlets and generally pushed barrier islands around from New England to Georgia. The northeasters are the true agents of change in these parts.

The Outer Banks are the boldest barriers, arcing out to sea more than 30 miles from the mainland shore on Pamlico Sound. They are perhaps the best studied. Geologists and ecologists measure the amounts of sand carried from one beach to another by the longshore drift, the opening and closing of inlets, the deposition of tidal deltas, the windwork on the dunes, the overwashes where the sandy sea breaks through to the interior—all these processes provide the material that keeps the barrier's head above water. Investigators track the movement of the islands, a few of them seaward because of unusually bountiful sand supplies, but most of them the other way—at wildly varying rates that can exceed 50 feet in a year but average about five.

Fencing the dunes did not work

Back in the Depression, the National Park Service sent workmen down to stabilize the dunes of what was to become the Cape Hatteras National Seashore. But more recently University of Virginia geologist Robert Dolan and University of Massachusetts ecologist Paul Godfrey, while studying the natural vegetation of migrating barriers, found that fencing and grass plantings on the dunes were simply forcing the shoreline into an impossibly narrow zone, creating a sand wall that could give way before storm waves. As independents accepted by Park Service scientists, Dolan and his colleagues began a campaign to persuade Washington to stop stabilization and allow the islands' dynamic equilibrium to take over.

It was difficult, particularly since a former Park Service director had virtually promised the half-dozen villages surrounded by National Seashore land to control the sand dunes, and protect the communities from the intrusion of the ocean. Some townspeople felt betrayed. But in the end the Park Service agreed that stabilization was not working and should not be continued. If transportation links or other vital services were threatened by the opening of an inlet or rapid erosion, corrective steps would be taken on a case-by-case basis.

The Park Service is now firmly opposed to promot-

Eroding beach and sinking shoreline topple trees on Wassaw Island in Georgia. On the Outer Banks

After a 1977 storm, Mayor Harry Kelley of Ocean City, Maryland, pushes sand back with a bulldozer.

National Park Service has discontinued attempts to prevent natural erosion, is curbing development.

Fireplace sits in sand amid pilings of condominium at Ocean City, where high rises crowd dune line.

ing boom development of Hatteras. North of the National Seashore, a thickly developed stretch already runs up Nags Head, Kill Devil Hills and Kitty Hawk to the mainland bridge, with jumbles of expensive homes and clusters of prefab sun shanties near where the Wright brothers first took to the air.

The stilted sprawl gives David Stick the pip. Stick is a well-known historian of the area and a developer. Not the migrant kind; he lives at Southern Shores, hard by the bridge, among his customers, who thought enough of him when the place was incorporated to elect him mayor. He believes in, and believes he has demonstrated, a middle way that accommodates reasonable conservation and responsible development on barrier islands. He tends to regard the don't-look-back developer as a desecrator and has said so publicly and heatedly.

There might have been an excuse, in Stick's mind, for rapid and unplanned growth before we knew much about the problems of building on barrier islands. "But there sure as hell is none for much of the development in the last ten years," he says. He would not like it in Ocean City, Maryland, where a long line of high rises stands just about at the dune line, or what is left of it.

No experts in beach management

The mayor of Ocean City, Harry W. Kelley, is a man of proven determination and faith in himself. When rapid beach erosion threatened to eat into city real estate, Kelley hopped on a bulldozer (p. 56) and began pushing sand back where he thought it should go—daring the Corps of Engineers to jail him for violating their permit procedures. He says there are no experts in the field of beach management, and he's right enough there. And he figures he knows what's best for his town. That is, a good, high beach that can take the first charge of storm waves. "We can always stand one tide," he says. "We always have." Kelley thinks the best way to get that beach is with stone groins, the classic approach. And while his critics look on Ocean City, with its 8 to 9 million summer people a year and its condo coast, as a disaster waiting to happen, the mayor is proud of what he has done.

You can keep heading north, if you want to. Don't miss Atlantic City, the betting barrier. An early resort, brought to flower by the railroad, the place was moldering when casino interests came to town. Now the signs say "Atlantic City: Great Again." More than two dozen casinos are supposed to be in operation by 2000 and county planners along the southern Jersey coast are spinning eyeballs at the prospect of coping with the additional million people who may be looking for housing in their smallish towns, their

islands, their flood plains. And don't miss the stretch around Sea Bright and Monmouth Beach a couple of hours' drive to the north, where the seawall blocks your view of the ocean and the only way you can see salt water is when it comes over the top in a storm. This ultimate armoring, this high investment in protection that destroys what people came to barrier islands to be near, now has a name among activists trying to reform our ways: New Jerseyization.

You can visit Fire Island (p. 51) off Long Island, and go on to the barrier beaches that make a straight line out of the scalloped southern shores of Martha's Vineyard and Nantucket, to Monomoy Island off the elbow of Cape Cod, to Maine. There are places of seclusion and beauty and separateness, but in almost none is there the sense that the seclusion and beauty and separateness will last. Government researchers have been counting undeveloped, unprotected natural areas on barrier islands and they think there are at least 185 of them, but they have to keep revising their figures to keep up with the developers. A Department of the Interior study estimates that of the 1.6 million acres contained in 300 barriers, 30 percent remain undeveloped and unprotected. But with urbanization on the sand ribbons at 14 percent of total area as against a mainland average of 3 percent, that ratio too is downwardly mobile. One clear warning sign in the statistics is that there are now roads, bridges or causeways linking 175 barriers to the mainland.

There are several bills before Congress to purchase undeveloped barrier islands or to make it extremely costly to develop them. One means of doing this would be the withdrawal of federal subsidies for development, such as funding for sewers and water supply, roads and bridges, disaster relief and shoreline stabilization, as well as flood insurance.

To simply purchase the remaining wild areas would cost an estimated $1 to $2 billion. If those areas were to be developed in the usual way, and if the federal government were to follow current practices of grants, permits and licenses to undergird that development, the cost to the nation would range from approximately $4 to $11 billion over the next 20 years.

Support for acquisition has been strong and varied, but Congress is not likely to approve anything like $2 billion to buy sand, no matter how useful or valuable. So it goes, the promising ideas, the heads in the sand, the odds-makers, and—somewhere off, on a late summer sea—the reality that most of us would rather ignore: Camille's children.

Winter breakers pummel beach near Kitty Hawk. The last hurricane to make landfall here was in 1960.

The fine craft of the warrior race is exemplified by horse collar from Jutland. It is decorated

By Maureen Green

A tough people in a tough time, the Vikings also had a gentler side

in *Jellinge* style, so called because of its resemblance to cup found in burial mound at Jelling, Jutland.

A sweeping archaeological exhibition shows that these indomitable seafaring warriors also were civilized artisans and family folk

"In this year dire portents appeared over Northumbria and sorely frightened the people. They consisted of immense whirlwinds and flashes of lightning and fiery dragons were seen flying in the air. A great famine immediately followed these signs, and a little after that in the same year, on 8th June, the ravages of heathen men miserably destroyed God's church on Lindisfarne with plunder and slaughter."

Thus the Vikings, in A.D. 793, erupted violently for the first time into the consciousness of the people of England, and were recorded in *The Anglo-Saxon Chronicle*. For the next three centuries, the Vikings continued to get a bad press all over Europe for their deadly habit of sliding up in their shallow boats and disgorging warriors directly onto any sloping shore to loot and pillage from sea or river. When the Scandinavians finally wrote down their own accounts of their exploits three centuries after the main events, the adventures of the peoples who went a-Viking, or adventuring by sea, throughout this period were embroidered into great myths and delivered in no less highly colored terms. Neither from their victims, nor from their heroic sagas, is it possible to get an objective picture of what the Vikings really were like. It has fallen to archaeologists to explore the lives and achievements of the Scandinavian upsurge from around A.D. 800 to 1100, and put it into focus.

Now a comprehensive archaeological exhibition of Viking life and art has been put together for the first time, by the British Museum in London, incorporating many of the most recent Viking finds. The museum's director, Dr. David M. Wilson, a well-known Viking scholar; Dafydd Kidd, assistant keeper of medieval and later antiquities; historian James Graham-Campbell; and Jean Rankine, British Museum deputy keeper in charge of special exhibitions, have together worked for three years to assemble treasures from all the Scandinavian countries, from Iceland and Germany, as well as the British Isles, to give a detailed picture of the Viking achievement. "The Vikings Are Coming," the publicity announced some weeks before the exhibition opened in London. Although the news was greeted with considerably more calm than might have been the case 11 centuries before, the Viking fascination remains; queues wound around the British Museum's forecourt, under the eye of *Odin's Raven,* a replica of a Viking long ship, from the opening date February 14 until the close July 31.

The same show, though minus the large-scale replicas of Viking ship and Viking house, will open on October 4 at the Metropolitan Museum of Art in New

A frequent contributor to SMITHSONIAN, *Maureen Green described the Thyssen-Bornemisza collection, now touring the United States, in November 1979.*

Reconstruction of Viking-age house interior contains benches, cooking arrangements, tools and a loom.

York, where it will be on view until January 4. It will then be at the Minneapolis Institute of Arts from March 1 to April 30. A complex and expensive exhibition, the American costs have been underwritten by the American Express Foundation, the American-Scandinavian Foundation, the Charles Ulrick and Josephine Bay Foundation, Inc., the Cultural Fund of the Nordic Council and the National Endowment for the Humanities, with assistance from SAS/Scandinavian Airlines.

As part of what became almost a Viking festival, the British Museum published not only an academic catalog by James Graham-Campbell but a popular book on the Vikings. BBC television, in conjunction with Public Broadcasting Service's station KTCA in Minneapolis, has made a ten-part series on Viking culture, written and presented by archaeologist and Icelander Magnus Magnusson, with its own accompanying book. All of these peripheral events help toward an appreciation of the exhibition; but to fully appreciate the archaeological objects, one needs some knowledge of the historical context.

The scholarly Viking show has a strong theme, almost a mission: to correct the impression that this courageous people, who explored their world from the Black Sea to America, were mere robbers and plunderers, not only unused to the written word, but unused to any life except that of the sword. Dr. Wilson, whose own works have interpreted many of the recent archaeological finds, is the most insistent on refurbishing the image of the Vikings. "The Vikings were not altogether Sunday school children," he admits. "They were tough people in a tough time, they were brutal. But this was not the whole story. At home they had a highly developed society, they were very civilized; they had a formidable organizational ability. The English word 'law' is a Viking word. They had new farming techniques and a highly developed art."

Nevertheless, it is the Viking passion for the sea that first grasps every imagination. They may not all have been marauders nor worn horned helmets (no Wagner-style helmet has ever been discovered, in fact or in illustration, on Viking sites), but they were shipbuilders and navigators of immense skill and courage. The Viking ship astonishes us today with its grace and beauty of line (p. 69). In its day it astonished because of its strength and flexibility. Long and slim, built of oak, with symmetrical ends, long true keel, and overlapping wood planks molded into the shell shape that allowed the Vikings to land without benefit of harbor in very shallow water, the ship was equipped with a vast painted sail amidships, a side rudder and as many as 34 pairs of oars. With the mast topped with a bronze weather vane and often with a prow sculpture, such a ship must have been a magnificent sight setting forth from the fjords. It was this technological weapon, combined with superb seamanship, that gave the Vikings mastery of the sea.

Why the Scandinavians took to the sea is more complex. Prospects of wealth and power from trade, conquest and acquired land were enticing. Few peoples of that time took to boats except in desperation. But the Vikings, skilled in sailing their own fjords and

This reconstructed house of turf and stone is typical of those built on barren Atlantic islands.

Silver-gilt belt mounts found in Viking homeland are intricately interlaced in design and are

coastal waters, seemed to look on the open sea as a grand highway.

In the early centuries they pushed east, and transformed the Baltic into a trading highway, probing down the Russian rivers as far as Novgorod and Kiev, as well as up the Elbe and the Rhine. Their trade with the Middle East was vast, as it was with the Empire of Charlemagne, and finds of Arabic coins far outnumber those of Anglo-Saxon origin—though plentiful Scandinavian hoards of the latter remind us of the foolish policy of early English kings who paid the Norsemen to go away, again and again.

An Arab historian, Ibn Fadlan, writing of events in 922, described the Vikings when they arrived to camp and trade on the River Volga. "Never had I seen people of more perfect physique. They are as tall as date palms, have reddish hair and fair skins. They wear neither shirts nor coats with sleeves. The men wear cloaks with one end thrown over the shoulder, leaving a hand free. Every man carries an axe, a sword, and a dagger, and is never seen without them." Not everything about the Vikings impressed Ibn Fadlan, who added, "They are the dirtiest of God's creatures . . . and they do not wash themselves after sex."

These same Scandinavians also turned their faces westward, and exposed themselves in their open boats to the worst that the North Sea and finally the Atlantic could do. As a result of their travel, conquests and settlements, the whole of northern England became a Viking kingdom, and defeated English kings were barbarously put to death, their lungs and ribs torn from their living bodies to be spread out as "blood eagles." Only the Christian King Alfred the Great confined the Vikings to the north and east, a region known as "the Danelaw," with its great center at York (Jörvik). Ireland was colonized and the little Celtic settlement of Dublin (Dubh-lin, the black pool) occu-

Gold disc brooches, part of Hornelund hoard found in Denmark, are splendid examples of fine craft.

cited as evidence of Viking trade with ancient Byzantium—but pendants are purely Scandinavian.

Sword hilt from the Hedeby boat-burial, at base of Jutland peninsula, is encrusted with silver.

pied in 836, fortified in 840. The Vikings pressed on to Iceland, which was peacefully settled by democratic farmers from southwestern Norway after 870. They were learned men escaping from royal authority, and they preserved the oral tales of the sagas which were to be written down in the 13th century.

From Iceland, the murderer and exile Eric the Red then set off on a perilous Arctic expedition that brought him to a new landmass, which "with a true estate agent's mind he named Greenland," writes the modern Norwegian adventurer Thor Heyerdahl. Eric persuaded several hundred Norsemen, mostly Icelanders, rich and poor alike, with their women, children, cattle, sheep, pigs and dogs, to set off in 986 to colonize in 25 cargo vessels; only 14 arrived.

Discovering America before Columbus

From Greenland, Eric's son, Leif Ericsson, sailed across the Atlantic to make what is now thought to be the first landing on America. (Bjarni Herjolfsson, credited with the first sighting, did not land.) The sagas recount that he found three separate areas: Markland (woodland), now thought to be Labrador; Vinland (meadowland), probably north Newfoundland; and Helluland (flat stone land), perhaps Baffin Island. A colony was established in Vinland, where natural resources were lush, the climate mild, but the natives finally so hostile that the Scandinavians abandoned their holdings. Modern excavations at L'Anse-aux-Meadows in Newfoundland have dated a settlement at around the year A.D. 1000, and a Scandinavian-style ring, headed pin and other objects confirm the Viking presence in the New World. As Basil Greenhill, director of London's National Maritime Museum, says, "Open-boat sailing on this scale, often in most rigorous weather, is perhaps the most remarkable seafaring achievement in the history of European man."

Disappointingly, no Viking ship could be lent from the Viking Ship Museum in Oslo—all are far too fragile. And so those who wish to see the great Gokstad ship, excavated in 1880; the Oseberg ship, discovered in 1904; and the revolutionary find of five late Viking ships raised from the Roskilde fjord at Skuldelev in 1962, will have to travel to Scandinavia. But the show does boast the prow, or stem-piece, of one of the ships from Skuldelev.

Among the many weapons, spears and axes is a magnificent sword from a boat burial in Hedeby, encrusted with silver and inlaid with niello (at left). A unique Norwegian iron helmet, richly ornamented cloak brooches, arm bracelets and above all the tiny 11th-century head of a warrior, from Sigtuna in Sweden (p. 66), carved in elk antler, bring the Viking warriors' appearance to life.

Carving of warrior's head with peaked conical helmet (no horns) was found at Sigtuna, Sweden.

A mighty cache of silver coins, bangles, baubles, chains and "hack silver" was hidden at Cuerdale,

Tools of the Viking traders—a set of collapsible scales for weighing precious metals, and decorated lead weights—are displayed along with the goods they imported into Scandinavia in return for furs and slaves—a fine Carolingian drinking vessel and remains of wine butts, pottery (which the Scandinavians did not make well) from Slav lands, glass and silks and a bronze incense burner from the Middle East. Perhaps most evocative of their perilous times are the Viking hoards, buried all over Viking territory by warriors or traders for safekeeping, and never collected. Who can have buried the British Museum's superb silver hoard, discovered in Cuerdale in Lancashire (above) by workmen repairing a river bank in 1840, and undisturbed since the day it was hidden in the tenth century? The massive weight of this silver hoard, 88 pounds, is made up of bracelets, brooches, chains and foreign coins, and odds and ends of "hack silver." The

in Lancashire, early in tenth century. It weighed 88 pounds, contained more than 7,000 coins.

hoard reveals that, in a culture without its own coinage, transactions were paid for with weighed silver—perhaps two bracelets, a brooch and a jumble of foreign coins, and if the weight was a little short, a lump would be hacked off the arm-ring the dealer was wearing to bring it up to scratch. "Such is the weight of the Cuerdale hoard that," in the opinion of Dr. Wilson, "only an army paymaster could have accumulated such a treasure."

Perhaps the most historically newsworthy side of the entire exhibition is the light it casts on the domestic side of the Vikings' culture, and ordinary actions like fishing, farming and weaving. The reconstruction of a Viking house from the trading center of Hedeby, in Denmark, was made possible by recent interpretation of Viking domestic life, towns and settlement patterns; towns have now been dated and their functions become clearer. The houses in Hedeby were constructed of wooden staves, or wattle plastered with mud (one entire wall, pushed over and lying flat, was excavated almost intact in 1968) roofed with reeds or turf. All activity in the house centered on the fire in the middle of the main room, surrounded by earth or wooden benches for sitting and sleeping.

Iron cooking pots, upright looms for weaving, soapstone oil lamps and bun-shaped smoothing irons for laundry have all been found, even the remains of varied Viking food. Original cauldrons, spits, griddles, bowls and kitchen knives of the Vikings in the exhibition, along with their wooden cups and drinking horns—drinking beer was an important part of social life—evoke the Vikings at their most relaxed. Generosity and hospitality are recalled with admiration in the pages of the Icelandic sagas. Drinking, poetry and board games helped to fill the long, dark northern evenings. There is a well-preserved gaming board from a site in Ireland, and there are blue glass marbles and a whalebone "king" thought to have been for a game known as *hneftafl*.

An organized society

From the size and layout of towns such as Hedeby, from newly excavated Viking fortress sites and from earthwork defenses south of Hedeby, "We can deduce the growth of central royal authority," argues James Graham-Campbell. "Such public works imply extentive financial resources, and a control of people and supplies. Much of the building is all to one pattern and indicates some master plan." The Scandinavian nation state was evolving in the late Viking age.

Nor were the Vikings without crafts. Though luxury silver drinking goblets (and the wine to go in them) might be imported through trade or plunder, locally made cooking utensils, agricultural tools and riding equipment would be much in demand. The most admired of all was the work of the weaponsmith. For men whose greatest honor was to die in battle and so be transported immediately to Valhalla to drink with the heroes, the weapons by which such honor might be attained were holy. A superb group of tools found in the tenth-century grave of a Norwegian weaponsmith attests to the wealth and status of such a maker of warlike objects.

Viking craftsmen also carved jet, amber and bone into small ornaments; animal bone was hewn into skates to travel over the ice; and long hair-combs were made from antler. Excavations in the last four years in York have revealed a street of Viking craftsmen and details of their daily lives. Along Coppergate (from "cooper" meaning a woodworker and from the Norse "gata" meaning a street) wood and other materials were carefully worked; amber fragments and jet dice

Largest Viking neck-ring found is pure gold, weighs about four pounds and is 14 inches in diameter.

indicated a jeweler's shop; a well-preserved leather Viking shoe, scraps of leather, tools and also seeds, pollen and insects associated with leather were found in a tannery; fragments of textiles were preserved; and the most unexpected discovery, a set of pan pipes made of boxwood, could still be played.

Precious metals for jewelery were all imported, or looted by the Vikings and melted down to be turned into brooches, worn by Viking women on both shoulders to keep their loose-fitting garments in position, or neck-rings and arm-rings worn by men and women alike. Metals were cast or engraved, stamped or punched, plaited or twisted into simple ornamental designs for arm-rings. Silver was encrusted or inlaid into sword hilts, and gold was also ornamented with filigree and round granules. A set of magnificent gold brooches and pendants found at Hedeby illustrates the complexity of the Viking goldsmith's craft. Much of it is not immediately easy to appreciate. James Graham-Campbell writes that some of the Viking brooches strongly resemble "a can of worms" in design. "There is no restraint in Viking art," he admits. "They covered every available space with their highly intricate types of patterns. But there is system and order beneath the original chaotic impression."

The Vikings seem to have left no fine art as such, but ornately decorated crucial objects, whether the carved Oseberg ship and its contents, the inscribed memorial stones, or the intricately patterned and ornate bridle mounts and collars for their much-valued horses. Design almost always revolves around animal forms, at least until the coming of Christianity. Most of Viking art must have been wood carving and has since rotted away. But in the exhibition, carving on bone and amber gives an idea of early Viking decoration; and a replica of the great wooden doors of the church built at Urnes in 1060, and amazingly preserved, displays the final evolution of Viking pattern.

Viking designs on metal have survived in greater quantities. From the earliest Viking age come the magnificent bridle mounts, wrought in gilt and bronze and found in a man's grave at Broa in Gotland. Intricate animal patterns and workmanship indicate that they all come from one workshop, many of them displaying the Viking invention of "gripping beasts," stylized animals that grip the edge of the frame, or even each other. In the mouth of the animal head which completes the great gilt-bronze horse collar found in a grave at Mammen in Denmark (pp. 60-61) is tucked the figure of a similar "gripping beast."

As the Scandinavians gradually welcomed priests instead of enslaving them and became converted to Christianity, the new religion brought with it the Roman alphabet and the possibility of recording Viking poetry and exploits; it also brought a greater cooperation with the rest of Western Europe. The Viking contribution—a more democratic social organization than that of the Roman Empire, a vigorous spirit, an open generous attitude, friendship and family life, a go-getting approach to trade and travel—was mingled with other strands. The purely Viking culture seems lost except in Scandinavia itself and in Iceland, but in fact it continued as part of the rich amalgam of personality and skill that created medieval Britain and northern Europe. And the Scandinavian tide ebbed very slowly from many northern parts. In the northern isles of Scotland, Norwegian dialect remained in use alongside English until the 18th century.

The current Viking exhibition puts in focus Viking achievement and the ways in which Viking culture contributed to the cultural renaissance of the 12th century. But despite all its success in revealing the peaceful contribution of the Vikings, it is unlikely to obliterate the marauding reputation that Vikings have had for more than a thousand years. As every English schoolchild learns, one of the Viking words that remain in the English language is "berserk"; and the Anglo-Saxons learned that word as the Viking description of the way Vikings behaved in battle.

Beautiful and efficient Gokstad ship, too fragile for inclusion in exhibition, is on view in Oslo.

T. M. McAuliffe

Environmental activist Tom McAuliffe:

"When it comes to cleaning air, I'll match this Bethlehem 'dust catcher' against any in the steel industry."

Tom McAuliffe, a combustion engineer at Bethlehem's Steelton, Pa., plant, "just grew" into his environmentalist role...as did many of the thousand other people whose jobs keep them active in Bethlehem Steel's environmental control program.

As Tom explains it: "The fuel department has always been involved with water mains and air ducts. So it was only natural for our department to take over the plant's efforts to control air and water pollution.

"Back in the sixties, the plant changed over to electric furnaces and immediately installed its first baghouse. That $2½ million system still collects about 85 percent of the emissions generated by the steelmaking operation."

Baghouses operate like giant vacuum cleaners. Huge fans pull the dust-laden air through filter bags. The 5,000 bags hanging in No. 2 baghouse, each a foot in diameter and 33 feet long, filter 1,600,000 cubic feet of air every minute. The bags are shaken periodically, causing the particles trapped in the bags to fall into bins. The particles are then collected, pelletized, and disposed of on a plant-site landfill.

But in the early seventies, the EPA came up with tougher clean-air targets. And that's when Tom "really got involved."

"From day one," he remembers, "I lived with the No. 2 baghouse project. I was involved in everything...design, engineering, construction, start-up, everything. We built it 'top of the line,' and it shows.

"The original baghouse collects the particles in the air that's pulled out of the furnaces. What it doesn't get are the particles that escape when the furnace cover is off, or that leak out through the cover from the spaces around the electrodes. That's the job of baghouse No. 2. When those particles rise with the hot air to the peak of the roof, they're drawn into No. 2 baghouse where they're filtered out of the air and collected.

Five times as much money (and a lot more energy) to collect one-sixth as much dust

"No. 2 baghouse cost about five times what No. 1 cost—$13 million versus $2½ million. It's six times larger and pulls six times more air through its bags every minute. But in all that air there's only one-sixth the amount of dust that's in the air cleaned by No. 1.

"Both baghouses run all the time the furnaces are working and together pick up better than 98 percent of the emissions."

Bethlehem's commitment: to do what is necessary to protect public health

Tremendous improvements have already been made in the environmental area, but at tremendous cost. At Bethlehem, for example, we've already spent $700 million for pollution control equipment at our various operations.

We're committed to continue with programs that will control approximately 95 percent of our pollutant emissions and discharges. But we also believe there's a limit. To require industry *to remove the last traces of pollution*, to "purify" the air and water beyond what is necessary to protect public health, does not make good economic or energy sense.

Our position is clearly explained in our booklet *Steelmaking and the Environment*, which includes our *Statement on Environmental Quality Control*. If you would like a copy, write: Public Affairs Dept., 476 Martin Tower, Bethlehem Steel Corporation, Bethlehem, PA 18016.

Bethlehem BETHLEHEM STEEL

By Albert Rosenfeld

Sociobiology stirs a controversy over limits of science

Research into biological basis of behavior has been applied to humans by some scientists, and it is triggering a vociferous response

Sociobiologist Edward Osborne Wilson paused in mid-sentence to allow a large black ant that was crawling across his desk to climb into the palm of his hand. He set the creature down on the floor and watched as it headed straight for the open door leading to his lab, where it would find plenty of company. Wilson is the world's leading authority on insect societies. Even his detractors readily admit as much; they just wish he would keep his interests focused right there. But Wilson has no intention of obliging them. "To deny that genes have an important role in human as well as in animal behavior," he said, picking up our conversation, "is simply to turn one's back on the copious evidence to the contrary."

His name is now synonymous with sociobiology, which he defines as the study of the biological basis of all social behavior. The underlying idea is that of the "selfish gene," genetic material manufacturing new organisms that will best perpetuate the same genes. It is a modern version of Samuel Butler's well-known aphorism that a chicken is only an egg's way of making another egg.

Since the publication in 1975 of his monumental (697 double-sized pages, half a million words) study, *Sociobiology: The New Synthesis,* Wilson has been the center of an ever-widening storm which his more recent book, *On Human Nature* (1978), has done nothing to dispel. In these books, Wilson has promulgated far-reaching theories regarding the evolution of such traits as altruism, aggressiveness, spite, xenophobia and homosexuality. Anyone who emphasizes the role of genes in human behavior, as Wilson does—not to mention their putative influence on everything from sex roles to religion—shouldn't be too surprised when the wrath descends.

Wilson was not so naive as to expect uncritical acceptance of his work—and he would probably include himself among those he describes as the adventurous ones who enjoy "a not unpleasant whiff of grapeshot, the crackle of thin ice." He was pleased to get as much acclaim as he did. But he certainly foresaw scientific critiques of his methodology, for instance, and arguments that his theories had been put forth with too little hard data to support them. He knew that anthropologists and sociologists would not take kindly to his brash invasion of their turf. What he was not ready for was the kind of emotional criticism that escalated to all-out personal attack.

But Wilson happened along with his sociobiological synthesis just in time to present an irresistible target. A process of ideological polarization had already been taking place among biologists, particularly in regard to the genetics of behavior. To the "anti-geneticists" (some of whom are also geneticists), the "new knowledge" was not only spurious but was much too easily latched onto by racists and eugenicists as scientific "proof" of racial superiorities and inferiorities.

A return to social Darwinism?

Moreover, any suggestion that our behavior is dictated by our genes, to whatever extent, implied to some that we were genetic robots acting without free will. If our traits are inscribed in our genes, then how can we change or improve ourselves—or our society? Sociobiology was seen by critics as a justification for maintaining the status quo—almost a return to the long-discredited social Darwinism of the past century.

Beyond all that, there was a prevailing concern about our new abilities to "tamper" with nature, ranging all the way from test-tube babies to cloning and genetic engineering. Wilson was destined to become the symbol of a growing polarization. He was appalled to find himself lumped, for instance, with the likes of William Shockley, who had postulated a permanent economic stratification between blacks and whites based on genetic differences (Wilson vigorously disavows such notions), and to hear himself depicted as the ultimate archreactionary.

If one had to select his opposite number, the ulti-

Scientists have always sought the apple of knowledge, but is there danger in examining influence of genes?

Photographs by Peter Angelo Simon

mate archradical, on the same dubious scale, a likely candidate might well be molecular biologist Jonathan Beckwith, also of Harvard, with whom I had shared breakfast that morning, before calling on Wilson.

"To stress the genetic basis of behavior, as Wilson does with such conviction," Beckwith said, "is bound to lead to mischief—to political use and abuse—as it always has in the past." To underline his point, he handed me an article by a British neo-Fascist who was quoting Wilson to bolster his racist viewpoint.

Back in 1969, Beckwith, as part of a group that succeeded in purifying the first gene, began to worry about potential abuses of the new knowledge. He bases his concern on "a long history of wrong, misguided, scientifically flawed studies in social policies." He is not, he emphasizes, opposed to all genetic research, but argues that studies and conclusions such as Wilson's are flawed because "they ignore the complex interaction between environment and genes, and they ignore basic principles of genetics in a misuse of the concept of heritability."

As I sat with Wilson, recalling Beckwith, I also recalled a Washington meeting of the American Association for the Advancement of Science (AAAS) in February of 1978. Wilson was part of a daylong panel discussion on sociobiology. Beckwith was in the audience (as was I) that filled the hotel ballroom to overflowing. Speaker after speaker had risen, more to criticize Wilson than to praise him, and finally it was Wilson's turn. Before he could utter a syllable, about a dozen young men and women materialized, shouting "Fascist!" "Nazi!" "Racist!" "Sexist!" They said he shouldn't be allowed to speak. They wanted equal time. Then one of them, saying "You're all wet, Wilson!" emptied a bucket of water on his head. Even Wilson's critics, including Beckwith, were indignant and apologetic.

And so the battle lines have been drawn. Biologists from all parts of the country are on both sides of the controversy, but Cambridge, Massachusetts, has been the hub of the action. There, at Harvard, reside not only Beckwith, but a pair of evolutionary biologists—Stephen Jay Gould and Richard C. Lewontin—who have been equally vehement in denouncing Wilson's sociobiological tenets. There is also biologist Ruth Hubbard, who chaired a symposium at the same AAAS meeting in which the participating scientists, all women, characterized Wilson as a sexist and male chauvinist pig. (In *Sociobiology,* Wilson argued for a genetic basis for certain sex differences.)

Also in residence at Harvard, on Wilson's side this time, are other sociobiologists such as Irven DeVore, a social anthropologist—and, until recently, Robert Trivers (now with the University of California, Santa Cruz), perhaps the boldest theorist in the field.

All a matter of degree

The specific debate over sociobiology is sometimes put, for simplicity's sake, into the antiquated framework of nature versus nurture, heredity versus environment. It would be hard to find a scientist of any repute these days who really believes that genetics alone, or environment alone, *determines* human behavior. Virtually everyone agrees that genetics and environment interact in complicated ways to influence the outcome, that an individual's genetic endowment represents his overall potential—what he might become, depending on the opportunities which the environment provides. It is a matter of degree. The sociobiologists certainly believe that the genes exert a much more profound influence than their opponents are willing to concede, but the real differences in their positions are not as great as one might think.

The argument, in fact, would be much lower-keyed if it were just a matter of deciding whether the data and the arguments were convincing or not, whether genes were more influential or less so. The real question (in my view—and that of many others), the question that gives the debate its emotional power, is: *do we really want to know?*

Over the past few decades, biologists have advanced with fairly astounding leaps in their efforts to understand the basic workings of life's processes—down to the cell, to the molecule, sometimes to the atom or the electron. Not content merely to pick apples off the tree of knowledge, they have been brazenly shaking the tree, causing the fruits to rain down faster than they can be harvested.

Albert Rosenfeld, science writer and medical school faculty member, last wrote for SMITHSONIAN *about male fertility in the issue of July 1977.*

E. O. Wilson examines an ant in his Harvard office. His book *On Human Nature* won a Pulitzer but deepened the storm of praise and abuse for his genetic explanations of human as well as animal behavior.

We have always been wary of such acquisitions. We know what happened to Adam and Eve, to Icarus, to Prometheus, to Faust. When our hubris leads us to attain godlike powers, the gods will punish us. We will be driven from the garden, have our wings singed and be cast to Earth, chained to rocks and have our vitals gnawed at, lose our souls. These are deep-rooted feelings and fears.

The ideological opponents might be characterized, in a word, as those who look upon the "new knowledge" mainly with dismay, considering it not knowledge at all but unsubstantiated guesses, and those who look upon it with exhilaration. Let me admit, right now, that, for me, the exhilaration prevails over the dismay. My feeling is that, in the absence of a compelling reason to desist in specific instances, it is usually better to know than not to know. I tell you this not to try to convert you to my view, but merely to warn you of my bias.

E. O. Wilson did not invent sociobiology, but he defined the field brilliantly, crystallized its concepts and made it eminently visible. Though most of the components of his work were borrowed, with careful attribution, the synthesis itself amounted to a large original contribution. Had he been content merely to write a book of 26 chapters, masterfully putting together the known studies of animal societies—with perhaps a modest epilogue speculating cautiously about the eventual implications for human social behavior—*Sociobiology* would probably have been universally acclaimed. It won high praise from most reviewers anyway, especially in the beginning.

Even Stephen Jay Gould, who openly calls himself a "detractor," has written: "Most of *Sociobiology* wins from me the same high praise. . . . For a lucid account of evolutionary principles and an indefatigably thorough discussion of social behavior among all groups of animals, *Sociobiology* will be the primary document

for years to come." But Wilson did add Chapter 27, which he called "Man: From Sociobiology to Sociology," and that's the chapter that has received perhaps 90 percent of the attention. It begins:

"Let us now consider man in the free spirit of natural history, as though we were zoologists from another planet completing a catalog of social species on Earth. In this macroscopic view the humanities and social sciences shrink to specialized branches of biology; history, biography, and fiction are the research protocols of human ethology; and anthropology and sociology together constitute the sociobiology of a single primate species." An irresistible call to battle.

This is the chapter that leaves Gould "very unhappy indeed," for, in Gould's words, "Chapter 27 is not about the range of potential human behavior or even an argument for the restriction of that range from a much larger total domain among all animals. It is, primarily, an extended speculation on the existence of genes for specific and variable traits in human behavior—including spite, aggression, xenophobia, conformity, homosexuality, and the characteristic behavior differences between men and women in Western society."

In the earlier chapters, Wilson was trying to reconcile certain apparent paradoxes in Darwin's theory of natural selection, the principal quest perhaps being for a more comprehensive definition of genetic fitness.

Fitness, in Darwin's evolutionary scheme, was measured strictly in terms of procreative proficiency—the contribution of a given individual's genes to the gene pool of the next and following generations. Thus, oversimplified, the fittest individuals were the parents of the largest number of children who survived to their own reproductive years.

These competitive circumstances connoted a certain ruthlessness, hence Tennyson's "Nature, red in tooth and claw." But if, in this "survival of the fittest," the payoff lay in the maximum practice of selfish aggressiveness, how to explain the development of a quality like altruism? In insect societies, individual workers, eschewing procreative activities of their own, labor a lifetime so that others in the colony may reproduce. Certain birds give warning signals or engage in "distraction displays" at the approach of a predator, thus calling attention to themselves; the signaling bird may thereby sacrifice itself to save the others. How can this kind of defensive and sometimes suicidal behavior—observed in many variations in species as diverse as nighthawks, musk oxen and baboons—enhance one's own genetic fitness? How would any behavior traits that result in early death, and possibly the failure to procreate, be transmitted through the generations?

This dilemma had worried Darwin himself. He came up with an answer of sorts ("selection may be applied to the family, as well as to the individual"), as did others after him. But Wilson was dissatisfied with these formulations and, early in his big book, identified the question that was for him "the central theoretical question of sociobiology: how can altruism, which by definition reduces personal fitness, possibly evolve by natural selection?" A satisfying answer to this puzzle, Wilson felt, might provide insights to help explain other traits that persist over the generations without having any discernible survival value.

Kin selection the key

Without going into the details, two essential concepts—which Wilson borrowed from the British biologist William D. Hamilton—seemed to clarify the basic paradox. One of the concepts was "kin selection." If a bee or a bird or a baboon sacrifices itself, but in the process saves its close kin so they can reproduce successfully, then the altruistic behavior will have helped perpetuate the genes which they *share*. The closer the kin, the *more* genes they share. In Wilson's calculations, kin selection—rather than strictly individual selection—made excellent quantitative sense. If the requisite selfishness for selection is shifted to the collective gene pool, then its conservation through individual altruistic acts is not a contradiction after all. Hence the second concept—"inclusive fitness"—to encompass all related individuals in the kinship network, which thus becomes a multiple fitness pool. The sterile ants, without whose labor the ant society could not survive, pass on their shared genes via the relatives they support—a kind of procreation by proxy.

This kind of reasoning has led Wilson and other sociobiologists to tentative explanations of a variety of other traits. Robert Trivers, for instance, postulates the existence of a genetically based "reciprocal altru-

Fellow Harvard scientist Jonathan Beckwith, here in front of the medical school where he works in molecular biology, worries that sociobiology could be used to justify new forms of discrimination.

ism" in human societies. This is altruism that goes beyond the kinship network. Again, oversimplified, the reasoning goes something like this: if I save you from drowning, you might some time save me from drowning—or, if you don't, someone else might. I do favors with the expectation that they will somehow be reciprocated. If we all do good things for one another, we will—within certain limits—all be better off. Over hundreds of generations, if primitive men and women behaved this way, reciprocal-altruistic genes could have been passed along.

Trivers has also put forth some controversial notions about parent-offspring relations. Any sociobiologist would, for instance, have to recognize that when a mother protects her children, she is protecting her own genes; the same, of course, is true of a father. Trivers argues that, while a parent's genetic investment in his child is spread among as many children as he has, the child's genetic investment in himself is 100 percent, and thus he competes for as close to 100 percent of the parents' time and attention as he can get.

This is the kind of speculation that Stephen Jay Gould ridicules as "just-so stories" (after Kipling). They *are* only stories, he says, and have no more scientific validity than Kipling's tale of how the camel got its hump. Gould is right, of course, because in many instances the extrapolations have been made with no scientific *proof* adduced. But this is not as much of a putdown as Gould believes, since, as Sir Peter Medawar said, in explaining how science is really done, "Scientists are building explanatory structures, *telling stories* which are scrupulously tested to see if they are stories about real life." The just-so stories of sociobiology are intriguing, and they are not necessarily useless—as long as the narrator makes clear that, so far at least, he is only telling stories.

Since Wilson wrote his big book, continuing sociobiological research has spawned at least three new scientific journals and a small library of books. The "just-so stories"—usually much more sophisticated than my oversimplified accounts would suggest—have not only stimulated new studies; they have provided

An ant in Wilson's office provides a lighthearted touch. But the argument over sociobiology becomes deadly serious when Wilson moves from the discussion of insect societies to discussion of human behavior.

the impetus to go back to older studies to see what new insights might be gleaned. The stories, in Irven DeVore's view, make up a set of testable hypotheses. He has been redoing and rethinking much of his own earlier work on primates and on human tribal societies—not merely observing behavior but doing extensive biochemical studies, looking for genetic "markers" and for signs of "inclusive-fitness behavior."

Wilson says that, as a result of all this activity, there has been "a substantial increase in sophistication of theory and method," particularly on the origins of aggression, territoriality, altruism, polygamy, infanticide, sex-role behavior and child-rearing. He does not expect anyone to find a specific gene for altruism, or aggression, or homosexuality. He rather expects such predispositions, if they exist, to result from the influence of many genes, operating in complex interaction with variable environmental factors—much like the "multifactorial" genetic predispositions presumed to exist in certain diseases. He is hard at work, in collaboration with a theoretical physicist, Charles Lumsden, on a new book that seeks to establish the linkage between cultural and genetic evolution.

Is sociobiology of any real use to anyone, then? I think it clearly is, especially as a set of approaches to social behavior, particularly in animals. Not that I regard it as useless in looking at human society; it's just that, as yet, there does not exist a true science of *human* sociobiology—and the just-so stories, as of the year 1980, do not seem to have any immediate practical applications. Sooner or later, however, we may have to take cognizance of our biological inheritance.

An intuitive leap?

Frequently in the history of science, the great creative leap forward has been made by someone who has first steeped himself in the data, absorbed the literature, let it all simmer—and then come up with concepts that feel intuitively right, that hold together logically, but for which there was then little evidence. (Consider Einstein's tall tale of relativity, beside which Kipling's story of how the camel got its hump is downright plausible.) This seems to me to describe what Wilson has been doing, so the lack of supporting evidence for his just-so stories doesn't worry me too much. I am prepared to see where they lead.

I cannot pretend to do justice in this space to Wilson's ideas, or to the spirited arguments marshaled against them. But it's not as if I were trying to decide here whether sociobiology is right or not, whether E. O. Wilson is correct or not. I am more interested, for now, in the larger question being raised: is this kind of research and theorizing pernicious in itself, because of its potential for misuse? Should it be done at all? Specifically: do we want to know whether our genes have any influence on our behavior—and if so how, and how much?

I personally would vote Yes.

If I am deluding myself in thinking that I am exercising free will when I really am not, I'd like to know that. If I am informed in what ways and to what extent my genes are in control, then merely by becoming aware of that, I can help subvert the influence of my "selfish" genes, and, by so doing, gain a greater measure of real freedom.

If someone had planted electrodes at strategic points in your brain and had, unbeknownst to you, been influencing your behavior by remote push button, wouldn't you want to know it? If you never permit yourself to find out—if you instead curse the messenger who brings you the news and drive him away—then you will have preserved your prized illusion of free will while cutting off the possibility of attaining it.

The potential for abuse

At the same time, of course, the potential for abuse of new knowledge is very real. Even without going back to the many cautionary examples in history, one only need look at the mass sterilizations performed legally in Virginia on persons presumed to be retarded or in some other way inferior. The law was based on "knowledge" that their problems were genetic in nature. The critics of sociobiology are incensed because they believe that once again we are dealing with "knowledge." And how is the public to discriminate between knowledge and knowledge in quotes, if the scientists who are propagating it are not careful to make the distinction themselves? And if they are not (or even if they are), is there not a high probability that their just-so stories will be taken as justification to support the continuation of discrimination—or even to invent new discrimination?

The position of people such as E. O. Wilson is clear. He, DeVore and Trivers all agree that any discrimination against any individual based on rough *average* genetic differences—even if proved valid—is ludicrous and unwarranted. (Differences between individuals in a group are greater than differences, if any, between groups.) Wilson emphasizes the overriding importance to our evolutionary future of a healthy human diversity. He is no advocate of eugenics, and says he can't conceive that there will be enough knowledge (without quotes) during our lifetimes for anyone to think about putting into effect eugenic policies. He doesn't say this will be true forever, however, and here he differs from his critics, who maintain that we can never possibly acquire reliable knowledge in these areas of genetics.

These critics serve a valuable function for which we should all be grateful. With their steady radar scan on genetic research, they keep us aware of the potential abuse of knowledge, and the need to examine it carefully for left-out quotation marks. They remind us, too, that even the most well-meaning scientists can be the transmitters of their own politics and cultures—or, for that matter, their genes; moreover, that some scientists, such as the late Sir Cyril Burt, the British psychologist whose work early in this century served as the foundation-stone for many current theories regarding genetic differences in intelligence, have been simply dishonest in presenting data on genetic differences that was known to be erroneous, if not downright fraudulent.

So it would be counterproductive to wish to silence the critical gadflies—who have been accused of "academic vigilantism"—even on those occasions when one feels that they have gone too far, that they have been unfair in their charges, or have distorted claims and impugned motivations.

In a society with problems as great as ours, when there is so much we need to know that we do not know —and we usually seek the knowledge most urgently for medical ends—it would be a pity to put a moratorium on the acquisition of knowledge out of fear that someone will misuse it, even if the fear is based on high probability. I would rather try to improve our democratic monitoring procedures—to ascertain that knowledge, so labeled, is really known (though it can never be known with an absolute absence of uncertainty or risk) before we apply it, to keep a sharp eye on those who would misuse it—so that we can simply do our human best to minimize the hazards. As Robert S. Morison has observed, "The basic thesis that certain aspects of nature simply should not be investigated because of the possibility of unfortunate social consequences has not been seen in Western Europe since Bruno was executed for his interest in the heliocentric theory."

Besides, it is really impossible to predict that any research, or any ideas, in science will be immune to abuse and misuse. This came home to me again sharply on the day in Cambridge when Wilson helped the wandering ant off his desk. Ironically, the reinforced insight came through none other than Beckwith. You will remember that Beckwith had expressed concern about the misuse of knowledge resulting from some genetic research. But over coffee that day he told me, somewhat sheepishly, that even his research into protein transport across cell membranes had turned out to have unforeseen consequences: his collaborator in Paris was using his techniques to turn bacteria into exactly the kind of hormone-manufacturing bugs, with strange genes incorporated into them, that so many had predicted and feared as the product of recombinant-DNA research!

I am going to give biologist Lewis Thomas (SMITHSONIAN, April 1980) the last word on the matter. At the same AAAS meeting at which water was poured on Ed Wilson's head, I appeared on a panel with Lewis Thomas. The question of recombinant-DNA research was much in the air at the time, and the panel had been discussing what limits should be placed on the quest for scientific knowledge. "There are probably no questions we can think up that can't be answered, sooner or later, including even the matter of consciousness," Lewis maintained, and continued, "Within our limits, we should be able to work our way through to all our answers, if we keep at it long enough, and pay attention.

"I am putting it this way, with all the presumption and confidence that I can summon, in order to raise another, last question: Is this hubris? Is there something fundamentally unnatural, or intrinsically wrong, or hazardous for the species, in the ambition that drives us all to reach a comprehensive understanding of nature, including ourselves? I cannot believe it. It would seem to me a more unnatural thing, and more of an offense against nature, for us to come on the same scene endowed as all human beings are with curiosity, filled to overbrimming as we are with questions, naturally talented as we are for the asking of clear questions, and then for us to do nothing about it, or, worse, to try to suppress the questions. . . . This, to my way of thinking," declared Thomas, "is the real hubris, and it carries danger for us all."

Chromosomes superimposed on human figure suggest an underlying question: by what are we controlled?

By Peter Muller

Preposterous pets have always been our status symbols

A bear on a tether and a lobster on a leash, a bejewelled eel, rats that dine with royalty—through history the great kept them all

Londoners who chanced to walk along the Thames during the mid-13th century might have witnessed an arresting sight. Through the fog and down to the river would shamble a huge white bear. Following behind would be a man, restraining the bear with a long tether. As observers stood gaping, the man would ensconce himself on the riverbank while the bear, still attached to the leash, would slide into the river. It would splash and swipe at the water for a time, as far as the tether would allow. After a time, the man would lead the bear out of the water.

There was, of course, a perfectly good explanation. The bear belonged to King Henry III. Henry was concerned about the cost of feeding the bear, so every day it would be led to the river by its keeper to fish for its own food. Henry's sense of economy was especially commendable in view of the fact that he was already charging the people of London for the bear's upkeep.

One might suppose that there would have been an outcry when Henry decided to get an elephant and charge that also to the people of London. But the curiosity and excitement of the populace apparently outweighed the strain on their purses. Henry decreed that a special building be erected to house the elephant, which was a gift from the king of France. When it arrived, people flocked to see it, the first elephant in England.

Henry was not the first of his line to keep large pets. William the Conqueror received a bear from his son William Rufus as a gift, while another of William's sons reputedly had a large collection of his own. Nor was this august trafficking in animals unique to the Norman kings of England. Practically every crowned head from the dawn of civilization to the French Revolution collected strange animals, as have a vast assortment of lesser folk, wherever and whenever they had the means. Privilege and leisure seem to have begotten the urge to possess animals of great beauty or ferocity, animals that were the biggest, the most dangerous or the most bizarre.

Both the ancient Egyptians and Chinese collected animals for pleasure. Chinese emperors kept them in reserves called "parks of intelligence," while Egyptian royalty like Queen Hatshepsut (1500 B.C.) kept monkeys, leopards and occasionally a giraffe within the palace grounds, under the protection of the sun-god.

In the third century B.C., Ptolemy II staged a spectacle in Alexandria that even Ringling Brothers would be hard pressed to rival. Through the city's stadium Ptolemy marched a procession of beasts which, according to chroniclers of the time, took all day to pass. The parade consisted of literally thousands of animals, including nearly 100 elephants, a rhinoceros and 24 lions.

Julius Caesar had a giraffe, said to be the first seen in Rome—perhaps a gift from Cleopatra. Even the dour Tiberius, who reigned from A.D. 14 to 37, had a fairly large snake which he fed by his own hand. It sickened, and was dispatched by a colony of ants.

Birds, exotic and familiar, were popular in Rome. Trimalchio, of Petronius' *Satyricon,* had a magpie in a golden cage that greeted visitors. When Octavian, later the Emperor Augustus, returned to Rome after defeating Marc Antony, he was supposedly given a raven trained to say *"Ave, Caesar victor imperator"* (Hail, Caesar, victorious leader). Octavian was so pleased that he paid the trainer a handsome sum. But, so the story goes, a jealous onlooker forced the seller to reveal that he had trained *another* raven to say *"Ave, victor imperator Antoni"* in case the battle had turned out differently. Octavian made him split his money with the informer as a penalty for hedging his bets.

Selling talking birds to Octavian became a sort of minor industry in Rome. He bought at least two more, a magpie and a parrot that had been trained to salute him. An enterprising cobbler thought to cash in on

King Henry III's bear, tethered to a daring keeper, fished in the Thames to eke out the royal budget.

Peter Muller is a Washington public relations writer and an author of wildlife articles.

Illustrations by Paul Breeden

the trend by training a raven to say the appropriate *"Ave,"* but the bird was painfully slow to learn the prescribed phrase. Many times the poor cobbler exclaimed in exasperation, *"Opera et impensa periit!"* (Work and money wasted!). When the bird had learned its piece, the man presented it. The raven did its stuff, but Octavian declined to buy it, explaining that he had already enough birds to salute him. At that juncture the raven said, *"Opera et impensa periit!"* Octavian laughed and paid up.

Exotic animals became the rage; Nero kept a wide variety of them. Every affluent Roman filled the gardens of his country house with monkeys and birds. Lions, although difficult to acquire, were immensely popular. Peacocks were well liked, either in flocks for their beauty or defrocked for the table. Aviaries came into vogue. Varro wrote about his own, which was covered with netting and had a duckpond, fishponds and a place to dine.

During Cicero's time, the tending of fish became such an established custom that he called senate conservatives (of whom he did not approve) *piscinarii* —fishpond keepers. Voracious, snakelike muraenas (moray eels) were especially popular. Crassus, one of the richest men in Caesar's Rome, apparently had one that came when he called and took food from his fingers. He grew so fond of it that he adorned it with earrings and jewels, and wept when it died. In a ghastly vein, Vedius Pollio, a wealthy resident, used to throw miscreant slaves to his muraenas to see them be torn to pieces. On one occasion, the Emperor Augustus prevented him from throwing in a slave who had broken a crystal goblet.

Snakes were so popular in Rome at one point that they became a nuisance in the city. Seneca recalled attending banquets where they glided placidly over the tables and among the guests. Tamed specimens of even dangerous animals roamed at will through the houses of the rich. The Emperor Elagabalus had lions and leopards that entered the dining room, and even the chambers of guests. The Emperor Caracalla couldn't bear to travel away from home without taking his lions with him. One of them ate and slept in the same room with him. Caracalla felt such affection for his lion that he kissed it frequently.

Charlemagne was one of the early European princes to take a serious interest in learning. He gathered scholars at his court and worked to improve his own Latin—a considerable feat for a man of that era who was not a cleric. At his homes at Aachen, Nimwegen and Ingelheim, Charlemagne kept pheasants and other birds to ornament his gardens. The Caliph of Baghdad sent him an elephant at his request. The beast's name was Aboul-Abas and it was Charlemagne's great favorite. Although other animals would come and go, Aboul-Abas accompanied its master for 13 years until it died.

It is hard for us in this age to imagine the commotion that was caused by the arrival in Europe of the more unusual animals from Africa and Asia. For cen-

Lions, hitched to a chariot, hauled Rome's famed general, Marc Antony, through the streets.

turies, Europeans thought giraffes, leopards, zebras and ostriches were fantastic anomalies, freaks engendered by the unholy liaison of different species. A leopard was at one time considered a cross between a lion (leo) and a panther (pard). A giraffe was believed to be a combination of a camel and a leopard, hence it was sometimes called a camelopard and was thought to be ferocious. Alternatively, it was believed to be of such a sweet and innocent nature that it fed on milk. It was generally held that ostriches could digest iron. There is no way of knowing how many of the unfortunate birds were presented with a fatal meal of metal to satisfy the idle curiosity of their owners.

What explains the unicorn?

The most fanciful superbeast of the Middle Ages was the unicorn. How to explain it? Ancient drawings and frescoes showed various horned beasts in profile with the horns lined up, appearing as one. Also, the ridged horns of certain antelopes were sometimes bound together in Roman menageries, giving the appearance of a single protrusion. Even the ponderous rhino, the beast furthest in actual appearance from the imagined grace of the unicorn, contributed its share to the myth, as rumors drifted back to Europe of a beast with a horn growing from its head. As if to give physical proof to the legend, there were occasional narwhal tusks, identical to the horns depicted on unicorns, which found their way into human hands from time to time and were sold for fabulous sums because they were believed to have magical powers (SMITHSONIAN, February 1980).

As trade routes to Africa and Asia began to open up, the collecting of animals appealed to every aristocrat with pretensions to culture. Each wanted to acquire the rarest or the biggest or the most outlandish display that he could. Frederick II, Holy Roman Emperor from 1220 to 1250, kept leopards, hyenas, and received a giraffe from the Sultan of Egypt in exchange for a bear. When he got married in Worms, Frederick's wedding procession included camels, leopards, mules, and monkeys.

Louis IX of France contented himself with an elephant and a porcupine. Charles V of Spain favored seals, of which he had seven. In the 16th century, Henry IV of France had four monkeys and a parrot, all of which could be loaded on one horse so that he could take them on campaigns with him. He acquired an elephant, but it cost so much to maintain that he gave it to Elizabeth I of England.

The rarer and more unusual the animal, the more prestige accrued to giver and receiver. Some animals led eventful lives, bouncing from one prince to another, depending on the dictates of friendship and statecraft. The first cassowary ever seen in Europe passed through several estates before finally landing in that of Rudolph II, the Holy Roman Emperor, in the 16th century. Juan II of Castile gave a number of animals as gifts to Charles VI of France, including a lion and a lioness wearing collars of gold and ostrich feathers. King Alfonso V of Portugal sent small animals to both Louis XI of France and René of Anjou. Lorenzo de' Medici received a giraffe from a North African sheik.

Henry IV of France arranged for a horse to carry his pets—four monkeys and a parrot—on campaigns.

Charles V of France was a fanatical lover of birds. At Vincennes, where he was raised, Charles filled every room with birds. The place was virtually atwitter. Nightingales, storks and a vast assortment of others were kept in cages made of gold and silver and adorned with precious stones. When Charles ascended the throne in 1364, he was able to indulge his passion on a grand scale. Where the buildings of the Hôtel Saint-Pol formed a huge courtyard, Charles constructed, amid lawns and gardens, a hen house, a pigeon house, a house for turtledoves, an aviary for large birds, several small aviaries, and copper cages for songbirds and golden bejeweled ones for nightingales. He had also a pen for wild boars.

Some hundred years later, Margaret of Austria, the daughter of Emperor Maximilian I, assembled a considerable collection—no ferocious animals—that included three civets, a badger, two marmots, four

All kinds of birds, including storks, inhabited the gold and silver cages provided by Europe's kings.

camels, one bull and four cows. But Margaret was most fond of her parrot. She liked to carry it in her arms against her satin dress as she walked in the garden. Alas, while Margaret was visiting her father, the beloved parrot died. When she returned home, the grieving Margaret had a tomb, suitably engraved with poetry, built for the bird. If the emperor, her father, heard of her loss, we can be fairly sure that he was sympathetic. He had a tame pelican of which he was inordinately fond.

Very few things are as conducive to human folly as the keeping of pets, and no form of foolishness with pets has been as prevalent as the desire to push them into unnatural settings, simply for amusement. Having animals ape humans was a favorite trick and still is; Napoleon's Josephine had an orangutan that sat at her dinner table in a coat. There were elaborate attempts to incorporate beasts into processions and pageants. Cardinal Pietro Riario used real animals to depict Bacchus attended by panthers and Orpheus charming the savage beasts. One optimistic Portuguese princess went to the trouble of acquiring zebras because she thought they would look pretty pulling the royal children in a little carriage. She was sorely disappointed when they proved intractable.

Trying to stir up animal fights

One great fiasco occurred when Pope Pius II and Galeazzo Sforza paid a visit to Florence in 1459. In order to provide a suitably grand amusement for his venerable guests, Cosimo de' Medici planned a huge spectacle, pitting bulls, dogs, lions, boars and an odd assortment of other animals against each other in an arena. The animals were let in and the distinguished audience sat back to enjoy the ensuing carnage. What happened was that the lions lay down in one corner while the rest of the animals stood as far from the lions as they could get.

To salvage the day, a wooden contraption resembling a giraffe, with several young men inside to move it, was sent into the arena to stir things up. When this failed, the Florentines tried another gambit. Into the ring went a huge ball with a man inside who could move the ball forward by walking it. He approached the lions and tried to goad them to action by pricking them with a sword stuck through slits in the side of the ball. This strategy didn't do much good either.

Manuel I of Portugal also was thwarted by some animals that refused to fight. Manuel liked to sally forth into the streets of Lisbon on his horse, preceded by an elephant and a rhinoceros. One day a debate arose at court about the traditional belief that rhinos and elephants are mortal enemies. Manuel essayed to prove once and for all whether the antipathy existed.

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Pet rats sat for their Stilton when the Countess of Eglintoune tapped a wall in the late 18th century.

He partitioned off a city street and introduced the elephant and the rhino into it. As the king and his retinue watched, the rhino and the elephant galloped fearfully around the makeshift arena in opposite directions, snorting and trumpeting. At last the elephant crashed through a barred window and galloped away, leaving the rhinoceros master of the field.

The career of the rhinoceros continued for a while longer. Manuel decided to send it to Pope Leo X and put the rhinoceros on a ship. The ship stopped briefly in Marseilles, where the French king, François I, persuaded the captain to unload the animal so the people could see it. The journey continued, but off the coast of Genoa a sudden storm came up, sinking the ship and drowning the rhino. Its carcass washed ashore, was recovered, carefully stuffed, and sent to Rome.

Fortunately, this celebrated rhinoceros was immortalized by Albrecht Dürer. An artist had made a sketch of the beast and sent it to Dürer, who used it as the basis for his famous if somewhat fanciful woodcut of a rhinoceros.

By the 17th century, increasingly elaborate, large-scale menageries had come into vogue like that of Louis XIV. He had it professionally designed on the grounds of Versailles. Hitherto, animal collections had been unfocused, "unzoolike," with creatures and cages distributed throughout a noble's estate in whatever manner seemed picturesque. Period drawings show leopards, lions and ostriches parading and growling around a cage of swinging monkeys. Louis set a new, more formal standard.

Louis XIV's menagerie survived until the reign of Louis XVI. During the French Revolution, the mob overran Versailles and confronted the keeper of the menagerie. They had come, they said, to free the creatures caged by tyrants. Very well, said the keeper, eyeing the rhinoceros, but don't expect gratitude from every one of the animals. The mob reconsidered and took only the more manageable animals.

Dinner for the rat pack

The great vanities of the nobility were seen less and less in the face of marching egalitarianism and the dawn of science. But the appeal of the exotic never diminished. To some, unusual animals could be both diversion and inspiration. John Wilmot, Lord Rochester, was one of the most notorious rakes in Restoration England, and a very fine poet. A monkey turned up in one of his portraits and also in this passage from a letter to Henry Savile: "Most human affairs are carried on at the same nonsensical rate, which makes me (who am now grown superstitious) think it a fault to laugh at the monkey we have here, when I compare his condition with mankind."

Lord Byron traveled with ten horses, eight enormous dogs, three monkeys, five cats, an eagle, a crow and a falcon. The many dogs of Sir Joshua Reynolds make regular appearances in his portraits, especially those of children. A favorite macaw, which often tried to eat painted grapes, also took repeated pokes at the portraits of a servant he hated. This caused Reynolds to comment that "birds and beasts were as good judges of pictures as men are."

If bejeweled birdcages were no longer within the realms of the possible, it does not mean that eccentricity vanished from the privileged classes. In the late 18th century, the Countess of Eglintoune used to stage a bizarre demonstration for her dinner guests. She would rap on the wall of the dining room, from which would appear a pack of rats through a sliding panel. They would climb onto the dining table, eat the repast that the countess had provided for them, and vanish back into the hole in the wall when she rapped again. Lord Chesterfield may have started a trend in the world of cat lovers by seeing that his precious felines got handsome pensions after his death.

Just as eccentric affinities have survived, so too has

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the love of ostentation. Unlikely animals brought to heel attract just as much attention now as Marc Antony's lions probably did when they pulled his chariot through the streets of Rome. Jack Johnson, the American prizefighter, cut quite a figure as he strolled the boulevards of Paris with a leopard. Much earlier, Baudelaire also created a sensation on the boulevards. Rumor has it he chose to walk a lobster on a leash. Celebrities of our own time, from Salvador Dali to Brigitte Bardot, have owned ocelots or cheetahs; ladies of fashion in South America used to appear occasionally with large spiders, encrusted with precious stones, clinging to their dresses.

In the 1950s, there used to be amusing articles in the magazines about the strange pets that notable people kept. It was considered capital fun if a pair of New Yorkers kept a wombat and a llama in their Manhattan town house. But over the years it has become obvious that the care of delicate species by inexpert or careless people results in too many tragedies and too much waste. Generally speaking, the sentiment of both the public and the experts runs against backlot lions or drawing-room chimps.

Still, there is another category of beast keepers whose activities ironically echo the antique extravagance of the nobles of old. In England are a number of venerable estates which have remained in the hands of their ancestral owners because they have been converted into game reserves or "safari parks" which are open to the public. In that way, the revenues from tourists who come to see lions and elephants roaming the grounds relieve the financial burdens.

One such stately home is Longleat, which belongs to the Marquess of Bath, who maintains a large number of lions and a variety of other animals. Another estate that has taken the same route is Woburn Abbey, the home of the 13th Duke of Bedford. Over the years, it has become a haven for endangered species. The 11th Duke of Bedford deserves the credit for propagating Père David's deer from the few specimens sent to Europe from China. Thus Woburn Abbey is largely responsible for saving the species from extinction. (Today a healthy herd roams the Smithsonian's facility at Front Royal, Virginia.) If the Marquess of Bath chooses to pose for photographers in cowboy garb astride his hippopotamus, or if the Duchess of Bedford elects to ride one of her husband's white rhinos for a lark, it is certainly a benign kind of whimsy.

Pets all, these varied creatures—and more—have long been linked with Man. Missing: the unicorn, prominent in folklore. Could a rhinoceros have inspired it, or an antelope if seen with horns aligned?

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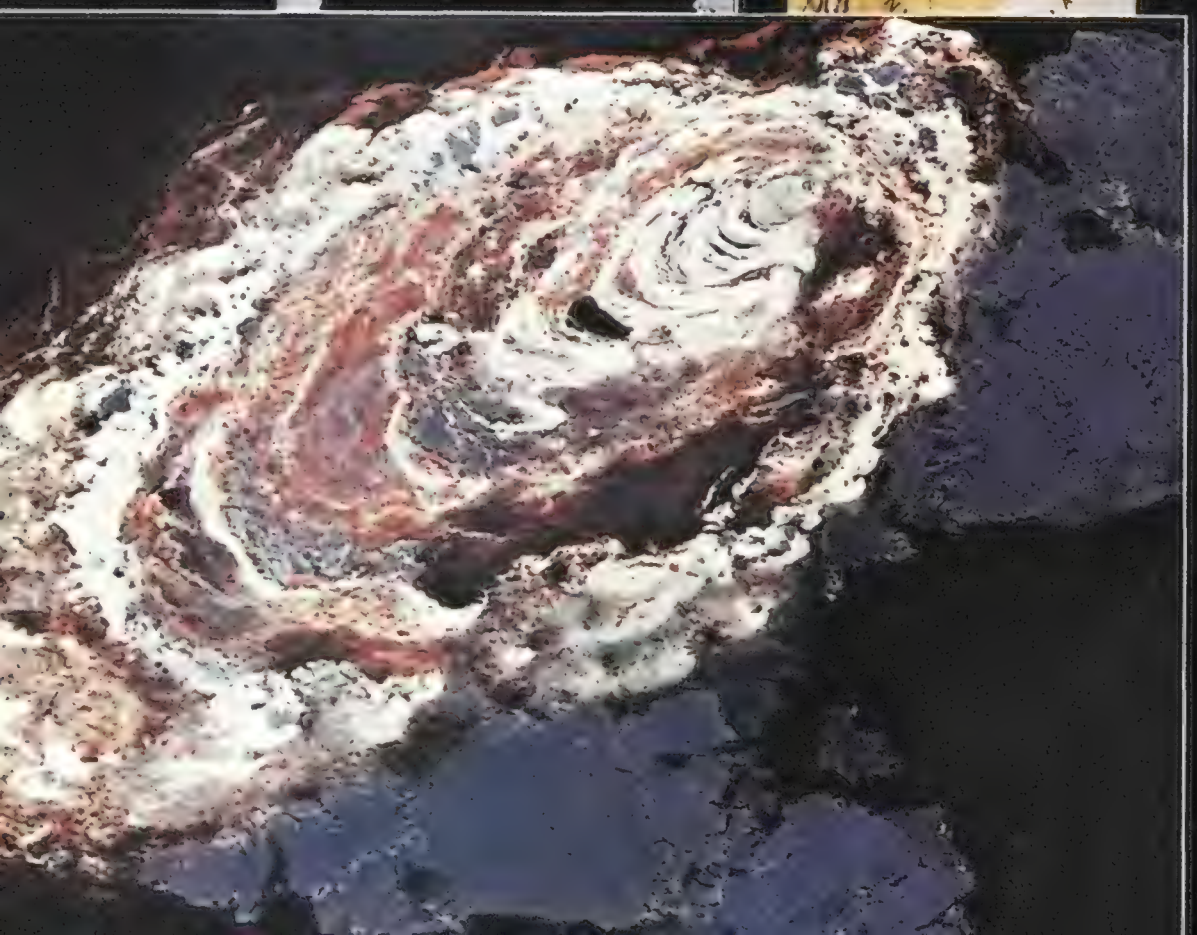

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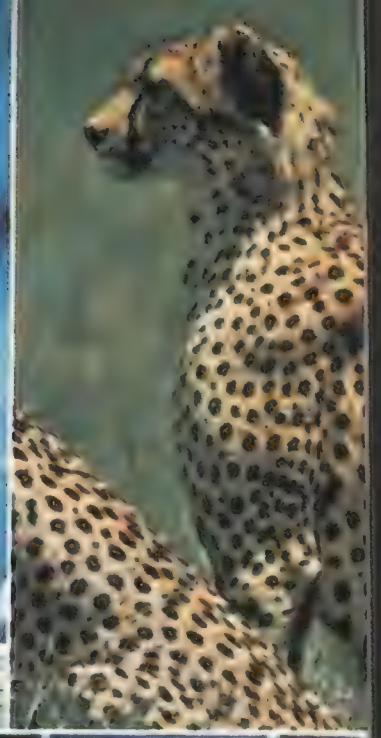

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In Renwick Gallery, Belgian puppeteers of Liège repair marionettes used in plays of chivalric legends.

By Randy Ring

Puppeteers gather to pull some strings

An international festival in Washington brought together masters from 20 countries to practice their special kind of artistry

A white-faced young man dressed in pale satin sits on boxes amid a spare theater set. He is startled by a shrill whistle that introduces each of a succession of frustrations. A bottle he reaches for rises just out of grasp. When he tries to climb a rope, he is repeatedly dashed to the ground. Raucous music mocks him, and the machinery above, intermittently lighted, seems to mastermind his distress. Driven to self-destruction, he finds the branches of his hanging tree collapsed; even that plan is futile. At the end, the bottle he had previously struggled for is suspended within reach, but his spirit is broken. Listless, he refuses to budge.

The play is *Act Without Words* by Samuel Beckett. The single performer is neither actor nor mime, but

Photographs by Richard Howard

Gigantic, eerie creatures from the Bread and Puppet Theater form a two-block-long parade on the Mall.

a remarkably expressive rod puppet. The puppet is but one of a hundred created by the Hungarian State Puppet Theater, and the Hungarian troupe was but one of 50 companies from 20 countries that performed this summer at the eight-day 1980 World Puppetry Festival, held at Georgetown University and the Kennedy Center for the Performing Arts in Washington, D.C. Nancy Staub, executive director of Puppeteers of America, began in 1976 to coordinate plans for the million-dollar panorama of performances, events and exhibitions. What she guided step-by-step to fruition—with input from UNIMA (l'Union Internationale de la Marionnette) and the sponsorship of UNESCO—was a wonderful, kaleidoscopic happening that attracted more than 1,500 international delegates.

Mostly puppeteers themselves, the delegates, unlike the general public, were not surprised to find that puppetry can be an evocative and sophisticated adult art form. What did impress even the pros, however, was the tremendous range in style of artistry. Beneath the stylistic differences lies an equally wide range of philosophies, goals and approaches to learning the art. On a still deeper level, the work of each artist is profoundly influenced by the role of puppetry in his or her culture. As a showcase of the world's finest, the festival brought a rare opportunity to view the creations of many countries' puppeteers side by side and to ponder the differences.

What exactly is a puppet?

In his widely read book, *The Art of the Puppet,* Bil Baird defines a puppet as "an inanimate figure that is made to move by human effort before an audience." Broad, yet precise, this description encompasses a startling range of sizes, shapes and methods of manipulation—from, say, a string-activated marionette like Pinocchio to a giant figure with a human inside, like a Muppet monster.

At the festival these categories and more were represented. The Belgian puppeteers from the Musée de la Vie Wallone in Liège, for example, hold onto rods attached to the heads of their heavy, wooden figures (p. 95). During the battle scenes found in the French medieval plays that the troupe enacts, the puppets are made to crash loudly against each other and drop to mound in a pile when killed.

Two folk puppeteers who wear their puppets glove-like on their hands are Percy Press jr. of England and the Egyptian master, Ahmed Shaarawi. Probably the best-known of England's 100 or so Punch and Judy puppeteers, Press learned his art from his father, "the uncrowned king of Punch and Judy," who died only recently. A father himself with four daughters and one son, Press hopes that 23-year-old Peter will follow him.

Puppet conducts Prokofiev's *Classical Symphony* in a production by the State Puppet Theater of Hungary.

The king and queen watch over their princess in innovative *Sleeping Beauty* by Drak puppet theater.

Shaarawi is not eager to pass along his trade, though with four wives and families, his opportunity to do so is ample. "Being a puppeteer can be a tiring life," he explains. "Most have been poor, and many are not able to elevate themselves as I have done."

Though Shaarawi's performances now are more sophisticated than the street show replicated for the festival, and while his own performing situations are more plush, he laments the lot of Cairo's street puppeteers: "Cairo is stopping street puppeteers; the police don't want it and they make things difficult."

Though their puppetry is also based on a strong folk tradition, the members of the Czechoslovakian East Bohemian puppet theater Drak would never be hustled off the streets of Hradec Kralove, their home base about 70 miles from Prague. They are highly trained and their profession is "respectable."

Entrée into this profession is difficult: four years at the Academy of Performing Arts in Prague, where every puppetry major studies movement, music, mime and acting, learns to play a musical instrument, and chooses a specialty in acting, directing or design.

Heather Mathieson, an American graduate student who is now a director's assistant with Drak, studied at the academy for a year and a half. She muses on the effects of this type of training, considered the best for puppetry in the world: "Four years of hard work changes people's attitudes toward what they are doing. It instills self-respect and it also instills discipline. The heart you have before; what you learn is the ability to stick with rehearsals up to ten hours a day."

The designer for Drak, Petr Matasek, must be, at the least, a wizard. The sets for the two pieces performed at the festival are both ingenious ideas and marvelous contraptions. *Sleeping Beauty* (above), for example, takes place backstage during an implied ballet performance, so the set is a large, textured structure, able to swivel, with two scenes: a backstage area and a dressing room. As the ballet supposedly progresses onstage, the puppets pop up from an inexhaustible treasure house of nooks and crannies.

No less innovative but the diametric opposite of the well-to-do Eastern European companies in other ways is the United States' Bread and Puppet Theater. Traveling in two gaily painted school buses, the com-

Washington free-lance writer Randy Ring has long been a fan of puppet theater.

Gustaf was Albrecht Roser's first marionette, and after 30 years he continues to be a West German favorite.

pany's membership is fluid, but centers around a core of five people who live in close proximity and work together on a farm in Glover, Vermont.

Peter Schumann, formerly a German sculptor, is the creative dynamo behind Bread and Puppet. He builds, paints, raises dust on the fiddle, and dreams up and directs the variety of dramas, parades and spectacles the theater creates.

Joan of Arc is a series of visual enactments, mimed and danced, narrated by Schumann. "In the first picture," he begins, "the people are swept out of their own country." As the curtain opens, sure enough, faceless, robed figures are sweeping tiny, cardboard replicas toward the stage's edge, at first calmly, then frantically.

If the political sentiments of the company are whispered in *Joan of Arc,* they are shouted in its street parades. Before the 7:30 P.M. Saturday performance, Schumann, on four-foot stilts, danced through the streets of Georgetown University, leading an anti-war parade that included an enormous, rotund version of Uncle Sam, a red monster and a lanky dragon. Since the reactions to their politics usually is a mixture of curiosity, support and antagonism, company members were not surprised when the campus police threatened to arrest them if they repeated the parade before the 9:30 P.M. show.

On Sunday, the festival's final day, Bread and Puppet had a permit to lead a parade in downtown Washington and on the Mall (p. 96). Peter Schumann, again ten feet tall, pranced ahead of a two-block-long procession of fantastic, beautiful and eerie creatures. There were, in addition, the characters from Saturday evening's parade, all accompanied by trumpeting horns, drums and placards, with firecrackers erupting along the way.

Solo puppeteers can do it all.

While Schumann's imprint is unmistakable on Bread and Puppet Theater, he is of a different breed from the solo puppeteers. Multidimensional in their talents like Schumann, these artists wear several hats: puppet-maker, writer, choreographer, often musician.

Bruce Schwartz is a native Californian in his mid-twenties. A creator of solo puppet shows since the age of nine, he was long regarded as a prodigy. The wonder in his unique puppetry is his ability to combine the elegance and eloquence of his rod-puppet vignettes (opposite) with the rude, bawdy humor of his hand-puppet Victorian farces.

Many years Schwartz's senior, Albrecht Roser has been a solo puppeteer for three decades. Many puppetry enthusiasts consider the West German to be the world's best marionettist.

With this stature, Roser was a logical person to draw the festival to a graceful close, which he did through the character of Grandmother from Stuttgart, the only one of his marionettes that generally speaks.

Grandmother came onstage trailing two balls of yarn, sat on a tiny velvet chair, and proceeded to cajole and philosophize in both German and English, while knitting at roller coaster speed.

"Nancy . . . Is Nancy Staub in the audience?" Grandmother called for the director, extolled the virtues of the festival, and teased her about the dormitory accommodations.

"Puppetry, it's an art of huge proportions. Believe it or else," she insisted. Then, suddenly, "Blimey, I dropped a stitch."

Grandmother's final words rang true for the many who had worn themselves to a frazzle seeing several shows each day, attending meetings and workshops, chatting and partying until dawn with practitioners of this profound and whimsical art. "I think it's time to finally say good-bye. It's a little sad, isn't it?"

Animated by hands
of Bruce Schwartz,
a rod puppet Pierrot
takes to the stage.

By Larry J. Zimmerman and Richard G. Whitten

Prehistoric bones tell a grim tale of Indian v. Indian

South Dakota archaeologists find what may be North America's largest ancient massacre site; overpopulation might have triggered the strife

The time is dawn in the fall of 1325. There is ominous movement beyond the protective stockade that surrounds a village high on a bluff above the Missouri River. Enemy warriors are gathering. They creep toward the village with the rising sun at their backs.

Inside the barrier, dogs have begun to bark. Asleep in their earth lodges, people stir beneath warm buffalo robes; fall harvesting is finished and their muscles ache from laboring in the fields and digging storage pits in the lodges. Corn, beans, sunflowers and squash were not as abundant in the river-valley garden plots this year. The work has been hard for little return. Along a newly dug fortification ditch, the men have been building a stockade wall; it is not yet completed. A watchman dozes, fog covers the ground, the dogs bark louder—and the attack begins.

Arrows, stones, lances and fire plummet onto the lodges. Gaps in the unfinished stockade are breached and screaming warriors pour through. The villagers rally and fight back, but it is too late. Their lodges are burning; combat is already hand-to-hand and the attackers are everywhere at once.

The raid is quickly over. Many are dead. Dismembered and scalped victims lie scattered throughout the charred rubble. Scavengers—wolves, village dogs and coyotes—will soon be feeding on the bodies. Many young women and children have been taken captive. For the marauders it is a great victory; for the villagers a disaster. The fortunate few who are left will never live there again.

Dismembered remains of 500 14th-century Missouri Valley farmers—men, women, children—lie exposed

Sometime later, when it is safe, a handful of survivors straggle back to look after their dead. They carry the battered remains of friends and family down into part of the open ditch (p.106). There they carefully cover a mass grave with fresh soil to keep the predators away. They speak the proper words softly and quickly, sing hushed songs and put the spirits to rest. The grieving people swear revenge, then disperse to relatives in other communities along the riverbank, vowing that this terrible deed will never be forgotten and can never be forgiven.

15 feet below ground at Crow Creek village. The hole to the left of the bone pile was gouged by a looter.

The time is midday in the spring of 1978. The place is called "39BF11" by South Dakota's state archaeologist, Robert Alex—39 stands for the state, BF for Buffalo County and 11 means it is site number 11 in the county. On this Memorial Day weekend, members of the South Dakota Archaeological Society are touring important sites in the region and have arrived at the prehistoric village of Crow Creek.

Bob Alex reviews the history of the area. Part of this village was excavated in the 1950s by Marvin F. Kivett of the Nebraska State Historical Society, who worked with a crew from the Crow Creek Sioux Indian Reservation where it is located. At that time, they uncovered many earth lodges and found evidence of fire and abandonment, but few human bones. (Twenty years later, historians in North Dakota set fire to a full-sized simulated earth lodge (p. 105) as an experiment; archaeologists who were continuing the Crow Creek excavations examined the results for clues that might help them recognize authentic burned-out lodges.) Kivett identified the village as part of the Initial Coalescent culture that existed from about A.D. 900 to

Indian grave: remnant of a massacre

Using a grapefruit knife to scrape soil from bones, researcher exposes the top layer of the yard-deep pile.

Raised bone lesions (lower right) in skull show victim survived scalping long before his murder.

1400. This culture was formed when corn farmers—the Central Plains people of what is now Kansas, Nebraska and Oklahoma—were forced by droughts to move up the river valleys northward into the Dakotas. There the Initial Middle Missouri culture was already established along the Missouri River. The two cultures blended, or coalesced. Large, fortified communities were typical of the period; the people were sedentary farmers. Today, their descendants are believed to be the Arikara Indians in North Dakota.

As Alex leads the visitors around the site, stepping among remains of fortification ditches and earth lodges, there is one feature of the village that he fails to mention—because no one yet suspects it: Crow Creek was the scene of the horrendous 14th-century massacre that pitted Indian against Indian. But the Sioux tribes that now live in this part of the state, along with people of European descent whose ancestors migrated here some five generations ago, are not related to the victims or the perpetrators of that disaster. And these modern residents have their own everyday concerns; the "terrible deed" may never have been forgiven, but it has surely been forgotten.

The touring archaeologists observe how dramatically the area has changed in some 600 years. The Missouri River has been tamed: where once Indian villagers farmed, motorboats now cruise on man-made Lake Francis Case. The fluctuating water levels of the lake have caused heavy erosion in the shoreline prairie bluffs and, year by year, the ancient village has been slowly crumbling away and disappearing into the water. A fortification ditch or dry moat has recently slumped away. One curious member of the group strolls over to the bluff for a closer look. Glancing down, he notices some bones sticking out of the embankment and calls Alex over to see. Alex and Steve Ruple from the state Historic Preservation Center identify the bones as human. Within days they alert the Omaha District of the U.S. Army Corps of Engineers to the discovery; the Corps has jurisdiction over the lake, which is a reservoir. Plans are made to prevent further erosion by placing rock and other material on the bank. The Corps soon calls on us at the University of South Dakota Archaeology Laboratory

The authors, members of the anthropology program at the University of South Dakota, helped to excavate and interpret Crow Creek's site and bones.

Archaeology crew examines the pit dug by looter in the eroded bluff; bones are to right of man in red.

The small dark holes—pitting—visible in eyesockets of this skull were caused by dietary deficiencies.

(USDAL) to remove the bones so that stabilization of the site can begin, but it will be another month before we start that excavation.

During the intervening weeks, a near-calamity occurs at Crow Creek, long a favorite haunt of arrowhead collectors. Most collectors are thoughtful hobbyists who are fascinated by and have great respect for North America's cultural heritage. Some, however, get carried away and, in violation of federal law and good sense, cause enormous damage to archaeological sites. We have a name for them: looters. Before our USDAL crew can get to the exposed bones, the lakeshore cruising of one looter pays off: he spies the same bones that the visiting archaeologists had seen. With pickax and shovel in hand, he scrambles up the embankment and begins to gouge a hole (left). Bone, bone and more bone spew out, but no arrowheads. Finally he leaves for his boat, bewildered by the abundance of bone and lack of stone. By sheer accident he has gouged out the first traces of what we later realize is possibly the largest mass burial ever found in North America, a bed of bones that bear macabre witness to the Crow Creek massacre in which more than 500 men, women and children died.

In the looter's wake, an SOS

When word of the looter's activities reach the Corps, an emergency salvage excavation is immediately authorized to prevent further destruction. The Sioux tribal council promptly gives its approval. The Corps sends an SOS to the USDAL and, under field supervisor Thomas Emerson, we begin work in August. None of us expects more than a few weeks of exploration, with the discovery of perhaps a dozen burials. We are wrong.

We first dig a trench at the bluff's edge by shoveling through 12 feet of loess, unstratified soil carried and deposited over the years by strong, constant winds. We want to uncover the bones from the top so that we can study soil changes as we dig. We intend to leave the bones in place for photography and drawing. When we reach the bone bed, we see what a mammoth job lies ahead. We enlarge the excavation and then enlarge it again. The final dimensions are almost 25 feet by more than 12 feet. The floor of the pit—the old ditch—is 12 to 15 feet below ground level.

As we slowly clear the reddish-brown loess away from the bones, we run into problems: when the gusty wind blows, which is all the time, the loess dust flies up and covers everything and everyone. Our sandwiches get crunchy and we have trouble breathing. Eventually we try wearing painter's masks, but they clog and we junk them. In the hot sun—100 degrees F is normal for August and early September—we have to carefully chip the cementlike loess away from the bones to prevent cracking and breaking.

Our crew includes an exchange-program archaeologist from Norway and some undergraduate anthropology majors, as well as five Sioux. To provide security for the site, we live right there in tents, or try to. The winds are so strong that, with the aid and abetting of rain and hailstorms, the tents are soon shredded and blown down. The Sioux know something that we do not and wisely choose to erect their own tepee (p.104), which is very stable and stands firm.

Close by a traditional, wind-resistant tepee, a Sioux holy man assembled framework of his sweat lodge.

Working seven days a week, by mid-October we have uncovered most of the bone bed and can see the massacre victims heaped in a fan-shaped pile (pp.100-101). Along the north wall, the deposit runs more than 20 feet; at its widest, the fan spreads out to almost 18 feet. At the deepest point, there are some three solid feet of human bone. With dental picks, paintbrushes, sharpened popsicle sticks and grapefruit knives, we clear and remove each bone. We also get used to working in cramped positions. The mass of bones is an enormous, confused jigsaw puzzle. No entire skeletons are present, just parts—odd pieces jumbled together. Each fragment is photographed in place, separated out, labeled with a site number and provenance and removed to the USDAL for analysis. We keep articulations—two or more bones found connected to each other, hence part of the same individual—together. In the lab, many more articulations are reconstructed.

News of the excavation spreads fast. People begin visiting and, by late fall, busloads of schoolchildren descend upon us. One crew member spends his days acting as interpreter and guide. We worry about future security. Even if we work until early December, which we do, we will have to leave some of the bones uncovered and in place. What might happen when we go? The Corps solves the problem by filling in the site and capping it with concrete, its condition today. The reservation's Bureau of Indian Affairs police force guards it around the clock. The Corps and the Sioux tribal council have requested a change in status for the

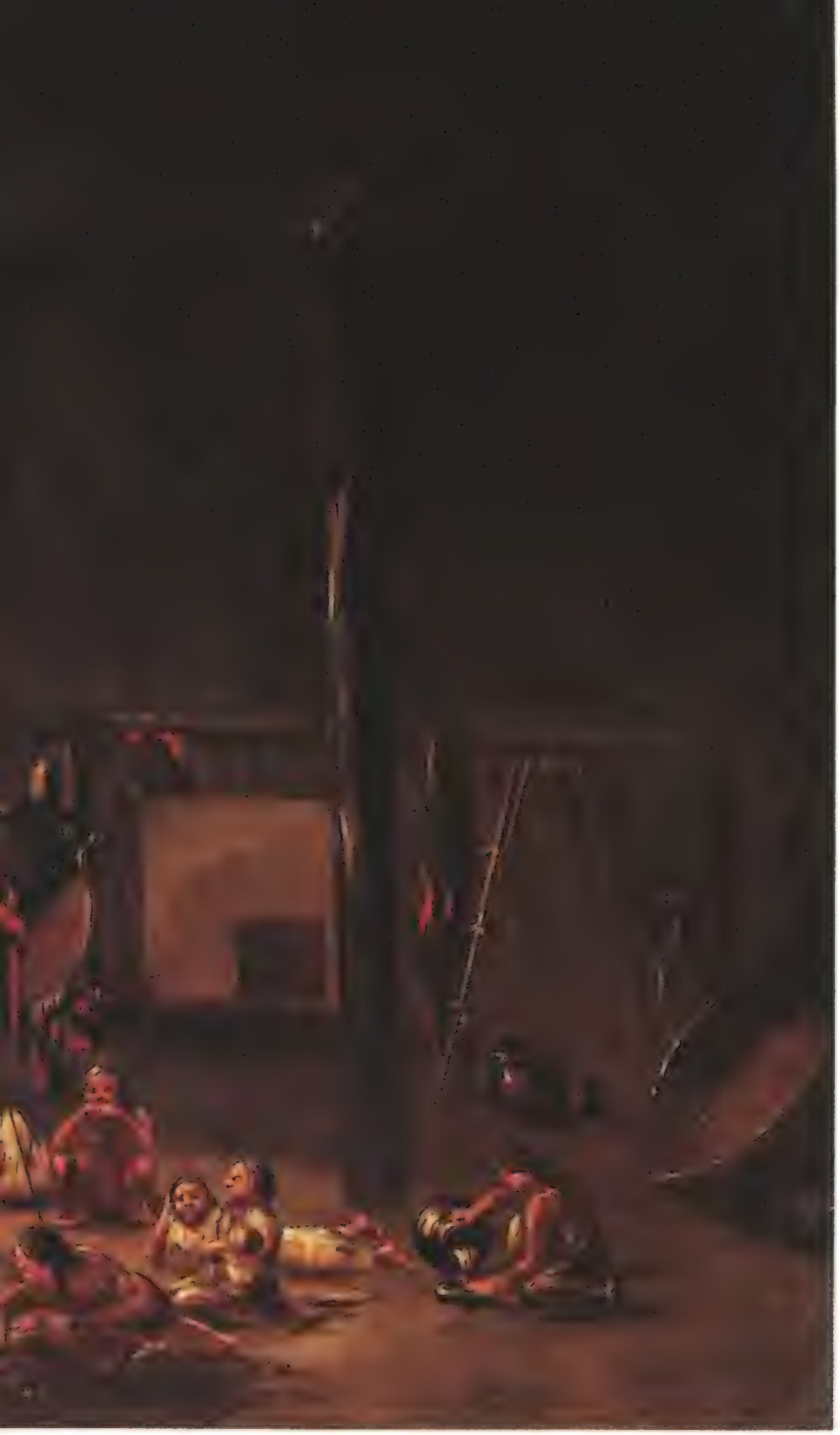
Courtesy Kennedy Galleries, Inc., New York

Artist George Catlin painted this *Interior of a Mandan Lodge* from life in 1832-33. Archaeologists believe

site from National Landmark to National Monument to assure additional protection and study.

The present-day Crow Creek residents are Sioux whose ancestors moved into the area in the 1700s. Those Plains dwellers came astride horses as nomadic tribesmen, with a far different life-style from the valley farming folk. Nevertheless, as we continue to excavate, many people on the reservation take a real interest and treat us to some delicious picnics.

Considerable debate, occasionally heated, develops over the treatment of the bones. The Corps acts with admirable patience and diplomacy and eventually the Sioux, the Corps and the archaeologists reach an agreement. A major concern of the Sioux Indians is whether our excavation crew is taking appropriate care of and



that this lodge is similar to those in which about 1,200 villagers were asleep when the enemy attack began.

showing the necessary respect for those who had died. Some of the more traditional Sioux feel that the *wanagi* (airborne and sometimes malevolent spirits who guard the remains of the dead and are audible in cemeteries) are causing problems among the living on the reservation. Are we, by our excavations, disturbing spirits better left alone?

One noontime, when our entire crew hears an eerie, high-pitched wail, we, too, begin to wonder about the *wanagi*. We decide to ask a Sioux holy man, Bill Schweigman from Rosebud Reservation, to visit and explore the supernatural world of Crow Creek. On arrival, he immediately starts building the essential sweat lodge (opposite) within which he will undergo ritual sweating during his nocturnal vigil. He generates intense, steamy heat in the canvas-covered hut by pouring water on hot stones. Chanting and singing, he becomes entranced during the night and communicates with the spiritual world. He determines that proper rituals had been held long ago. The dead are at rest, the bones merely bones; we may continue.

Simulated earth lodge in North Dakota was set afire by historians to help them see effects of burning.

We come to understand that we have no right to keep these bones permanently at the university. We promise, with Corps assistance, to see them properly reburied on the reservation. But reburial means that time for analysis of the bones is limited and we still have many questions to ask the dead. Ours is a unique opportunity to study the health, diet and culture of 14th-century Missouri Valley farmers. Demographic analysis is done by P. Willey of the University of Tennessee and Mark Swegle from Indiana University, while Dr. John Gregg of the University of South Dakota Medical School analyzes bone pathology.

The bone studies tell us a great deal about the victims. Among the remains of 486 people, women from 12 to 19 years of age were notably scarce, as were very young children of both sexes. They were probably taken captive to be absorbed into the villages of the victors. Although the looter had hacked apart 44 skeletons in his search for arrowheads, we are able to identify many of the separated, damaged bones that we recovered from the grave (our estimate is that approximately 50 more people remain buried). We rarely find hand and foot bones. Analysis, counts and cut marks on arm and leg bones confirm this, suggesting

Indian grave: remnant of a massacre

Scenes on these pages were painted for South Dakota Public Television documentary. Above, scavengers move in after autumn snow; below, burial in the ditch.

that hands and feet had been severed for trophies. Scalping marks appear on most craniums. These are long cuts made with a sharp stone knife in the process of removing the scalp lock at the hairline. Scalps have been known from historic times as a type of war prize, but our evidence shows that scalping has a long prehistory on the Plains. One poor fellow had been scalped some time before the massacre: his skull shows signs of healing (p. 102). This time he did not survive.

The bodies were dismembered. Many long bones bear "butchering marks" where the bone was cut through and broken at the joints. Other marks show that carnivores like village dogs or coyotes must have gnawed on the remains before burial (left).

Bone is living tissue and reacts to breaks and to many problems of soft tissue as well. By comparing the frequencies of disease, accident and dietary deficiencies in the Crow Creek population with pathologies in our own day, Dr. Gregg obtains data on the relative health of these farmers. A total of 1,137 incidents of abnormality are identified. Bone cancer is virtually nonexistent. Arthritis is evident but rare.

Well-worn teeth and broken bones

Among dental diseases, few cavities appear. Teeth are well-worn, however, suggesting a diet high in inorganic grit, believed to be the result of grinding flour in stone querns. Grit from the querns permeated the flour, but our own experience with gritty food makes us suspect that the ubiquitous loess was the culprit. Some malformed jaws are found. This seems to be a common trait among people who soften animal hides by chewing them. And there is a high incidence of breaks, perhaps from having to clamber daily down the steep bluff to the garden plots below.

That the people were cooperative, at least among themselves, can be seen in the number of handicapped and crippled residents. One man has a fused radia and ulna in his right arm that must have limited his usefulness in the village. A child of about seven has dislocated his hip; in time a new socket grew, but it was probably painful for him to walk.

Examination of the craniums and X rays of such long bones as the tibia disclose some potentially important findings. In many eye sockets there is a noticeable pitting, *cribra orbitalia* (p.103), and one skull had another kind of pitting, *porotic hyperostosis*. The long bones show minute longitudinal striations and growth-arrest lines. Separately these anomalies would only be suggestive. Together, they paint a sad picture of infection and vitamin and protein deficiencies.

What caused the slaughter at Crow Creek? Was it simply a manifestation of an aggressive, warlike culture? Historically the Plains tribes, pressured by ad-

EARLY TIMES.
THE WAY IT WAS, IS THE WAY IT IS.

1871. A hastily arranged reception for a pioneer balloonist.

On July 4, 1871, an astonished crowd in Kalamazoo, Michigan beheld a lone balloonist descend from the sky. He was Professor Steiner, the first mortal to fly across Lake Michigan. And even then, what would have been more appropriate at a welcoming party than Early Times. The whisky that made Kentucky whisky famous.

Today, we're still slow-distilling it the same way we did then. And thoughtful people always have several bottles on hand for friends who drop in out of the blue.

1860 *TODAY*

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vancing European settlers, were aggressive and excellent fighters. But before the use of horses on the Plains, feuding was limited. Small ambushes in the countryside were the rule among pedestrian farmers and hunters. When battles were fought, they were prearranged and extremely formal affairs with little loss of life. Honor was achieved by counting "coups"—blows or touches: a warrior would touch, not kill, his foe.

Little in the ethnographic records of the Plains prepared us for the massacre at Crow Creek. Maybe occasional, or chronic, malnutrition was a contributing factor. Perhaps the Missouri River floodplain and terraces of the 1300s were overpopulated, with too many people in too many villages putting heavy demands on the kitchen gardens. Everyone ate, but each person's share was minimal; as the villages grew, that share became even smaller. An extended drought could have tipped the balance and caused a precipitous decline in living standards. We know that such droughts were common on the Plains between the 12th and 15th centuries. This bloodletting may have been more than just an object lesson or simple revenge for an insult; it may represent the worst and most extreme kind of population control. The victors captured all kinds of trophies and the next day likely took possession of the abandoned farmland.

Months from now when the massacre victims are reburied, their new grave marker will stand as a mute symbol to a people whose neighbors probably saw their own standard of living in decline and took action to reduce the competition for food. It was not the only culture in history willing to go to war to ensure adequate resources. The marker will also serve to moderate the idealized view of prehistoric cultures—Rousseau's "noble savage." The nature of warfare and the conditions that trigger it seem unchanged today.

In this artist's conception of the dawn raid, by Martin Wanserski, one earth lodge has already been set afire as the villagers stream out to meet their enemies, who attack across the ditch at upper right.

DREAMERS, HERETICS, GADFLIES, MAVERICKS, AND GENIUSES.

The story goes that Henry Ford once hired an efficiency expert to evaluate his company.

After a few weeks, the expert made his report. It was highly favorable except for one thing.

"It's that man down the hall," said the expert. "Every time I go by his office he's just sitting there with his feet on his desk. He's wasting your money."

"That man," replied Mr. Ford, "once had an idea that saved us millions of dollars. At the time, I believe his feet were planted right where they are now."

At IBM, we have 46 people like that, and we don't worry about where they put their feet either. They are the IBM Fellows.

They earned the title by having ideas that made a difference. Their job is to have more ideas like that, but under a very special condition.

It's called freedom.

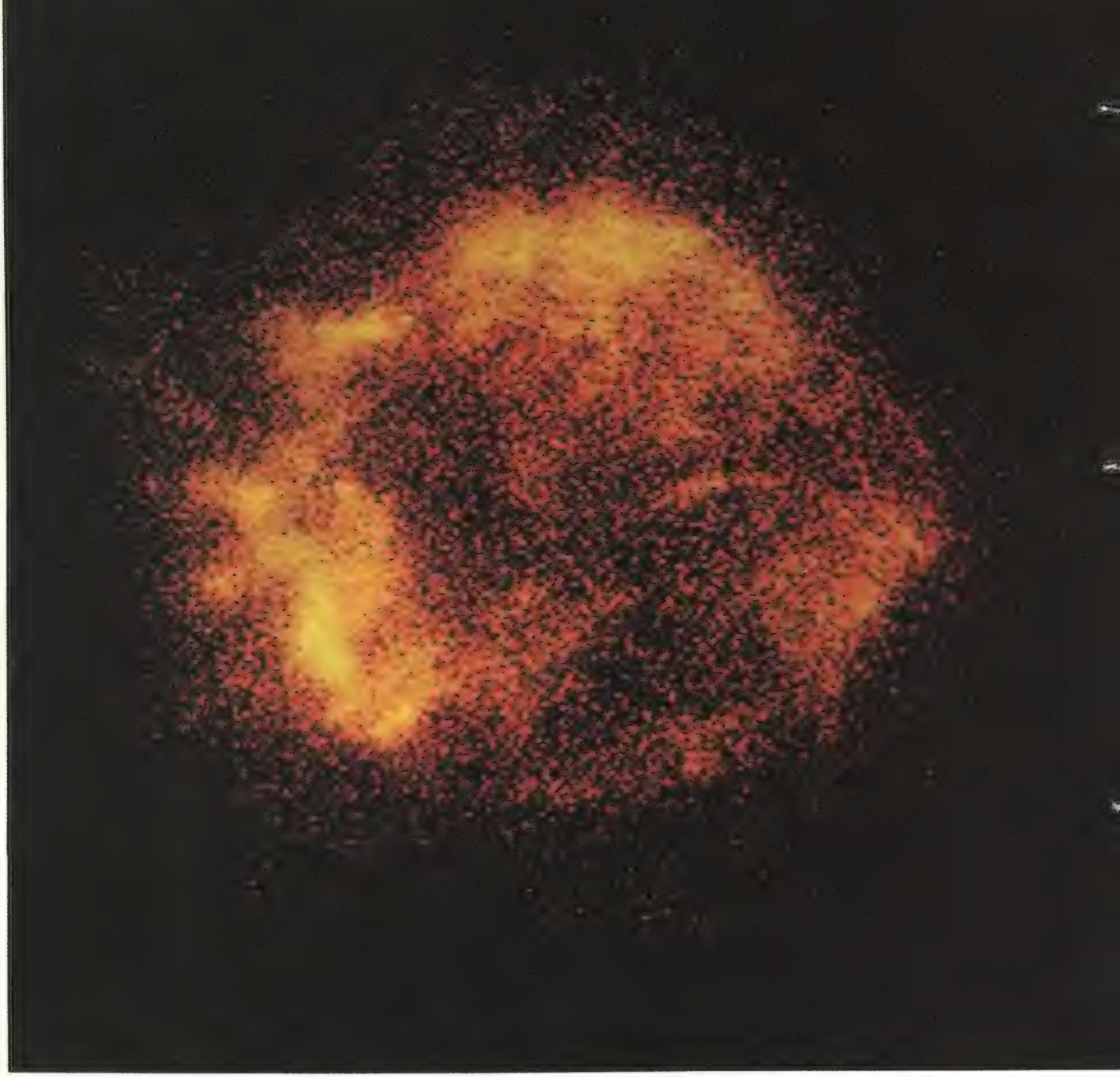
Freedom from deadlines. Freedom from committees. Freedom from the usual limits of corporate approval.

For a term of at least 5 years, an IBM Fellow is free to pursue any advanced project of value to IBM, even if chances for success may seem remote.

As a result, some of the great innovations of our time have come from IBM Fellows.

We may not always understand what they're doing, much less how they do it. But we do know this:

The best way to inspire an IBM Fellow is to get out of the way. IBM®

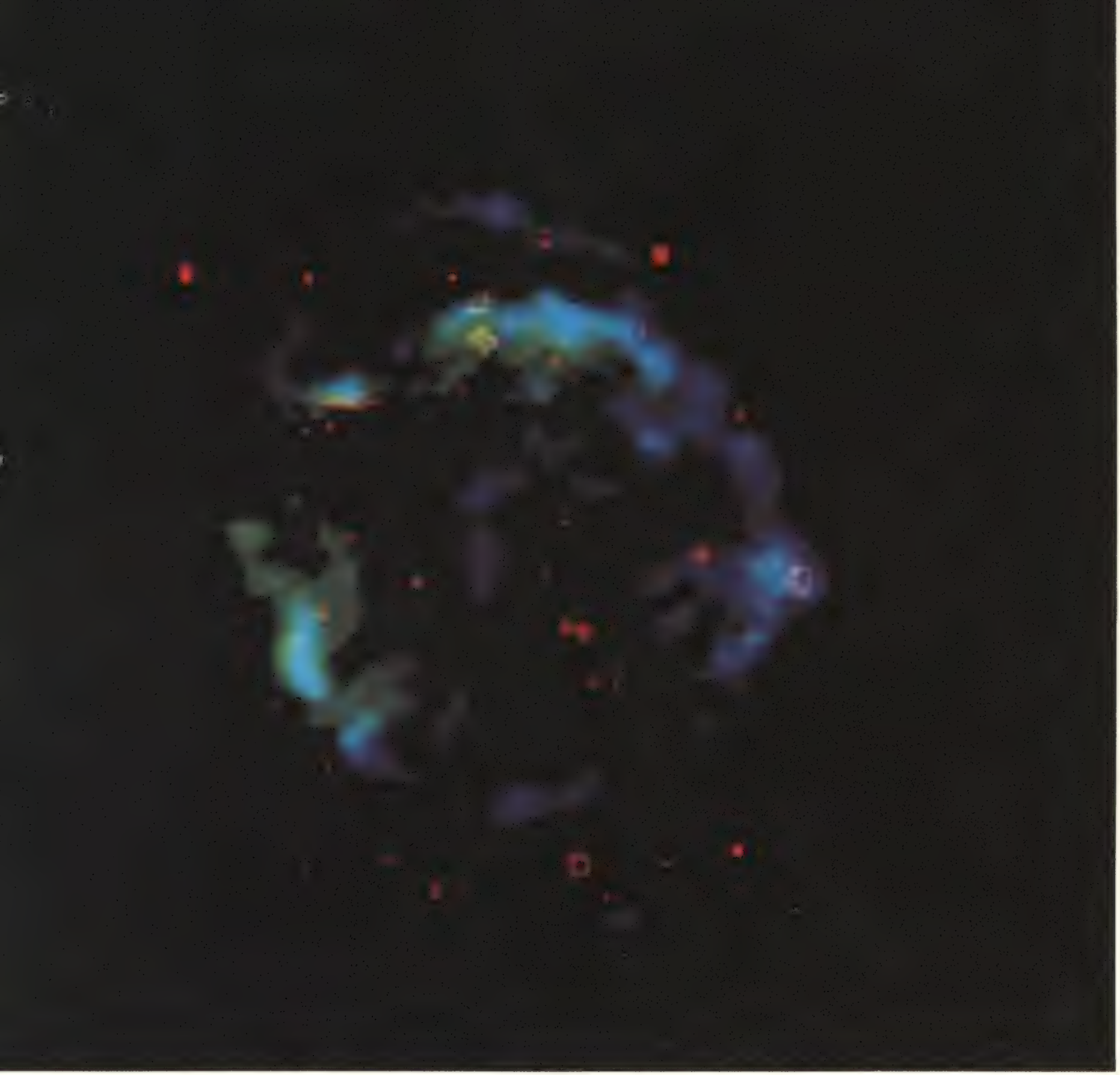


An expanding shell of hot gas and debris, supernova remnant Cassiopeia A is all that remains of a star that blew up. X radiation glows eerily in this daylong exposure taken by Einstein Observatory.

By F. R. Harnden jr.

X-ray telescope in space reveals unseen universe

Our most sophisticated high-energy satellite gives a different look to familiar objects and also discovers some unexpected new ones



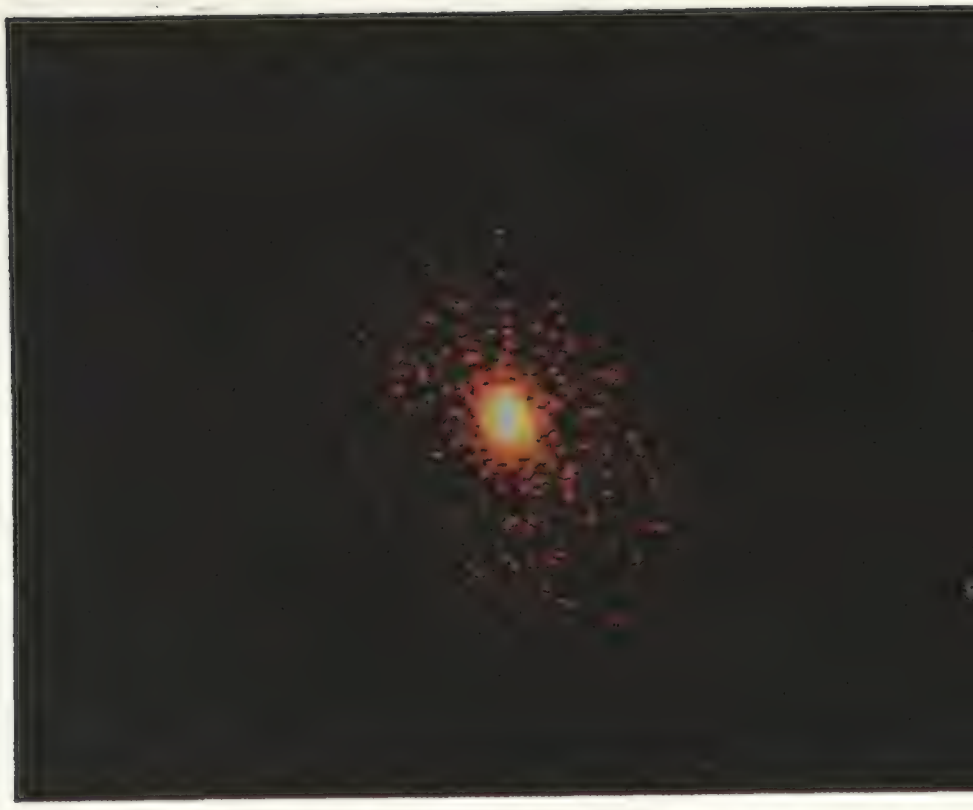
Three superimposed images of Cassiopeia A show how different it appears at various wavelengths. Visible light is red, radio is blue and X ray, green. X-ray portion here was shot on less sensitive screen.

We waited anxiously, a tight knot of astronomers huddled around a video screen in the computer room at the Harvard-Smithsonian Center for Astrophysics in Cambridge, Massachusetts. Some of us had waited ten years for this moment when we could actually peer into another galaxy, the Great Nebula in Andromeda, with X-ray vision. This was no group fantasy about being Superman, however. Rather, this roomful of X-ray astronomers awaited an image from an Earth-orbiting satellite, the Einstein Observatory.

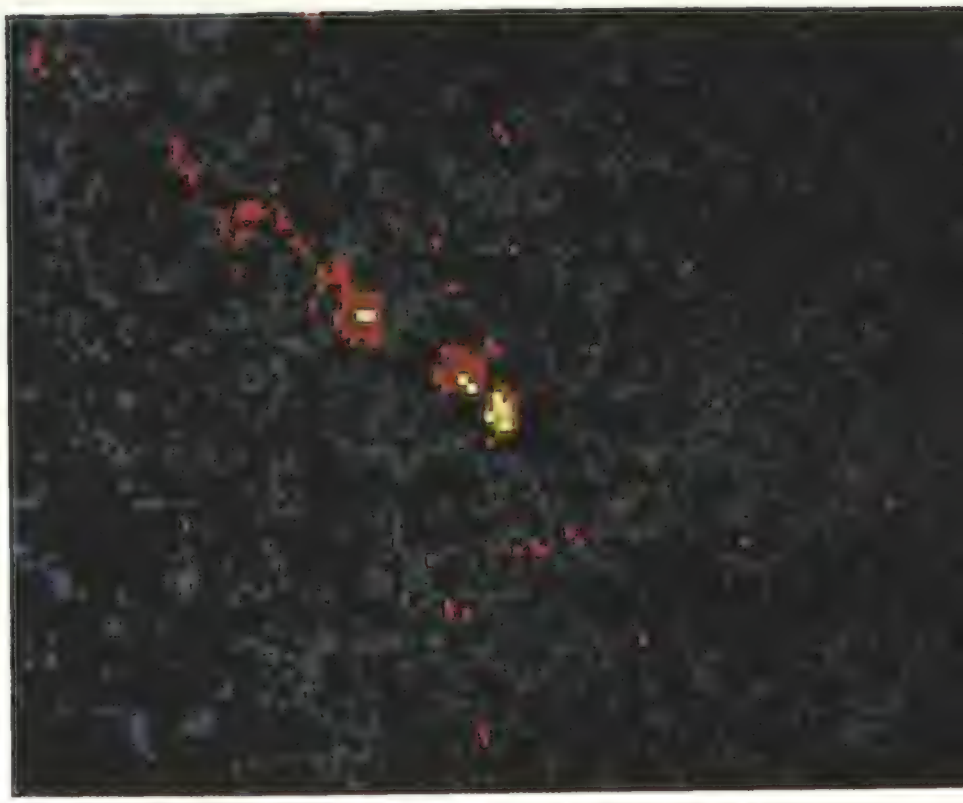
As the image finally began to build up slowly on the screen, appearing piecemeal in broad horizontal strips, we were left breathless. We certainly knew what the X-ray sources in our own galaxy were like, and we could anticipate how the galaxy in Andromeda should look. Yet none of us was prepared for the visual impact. On the 25-inch color screen before us, dozens of Andromeda's X-ray stars shone in the darkness like diamonds. It was the first time astronomers had seen individual X-ray objects in another galaxy.

In the first months of looking at Einstein's glimpses of the sky, we were continually startled by the strikingly new appearance of what we had considered to be familiar, well-known celestial objects. We were often

Photographs by Dane A. Penland



Pulsar in Vela supernova remnant pulses at radio and visible wavelengths, but is steady in X rays.



Computer-enhanced X-ray image of Centaurus A shows a jet (orange checks) from center to upper left.

surprised by unexpected results: a cluster of X-ray stars was found lurking next to what had been thought to be an isolated X-ray beacon, for example, and objects almost invisible in other wavelengths appeared as bright points in otherwise barren patches of sky. But what fascinated us most, more often than not, was actually seeing what had never been seen before.

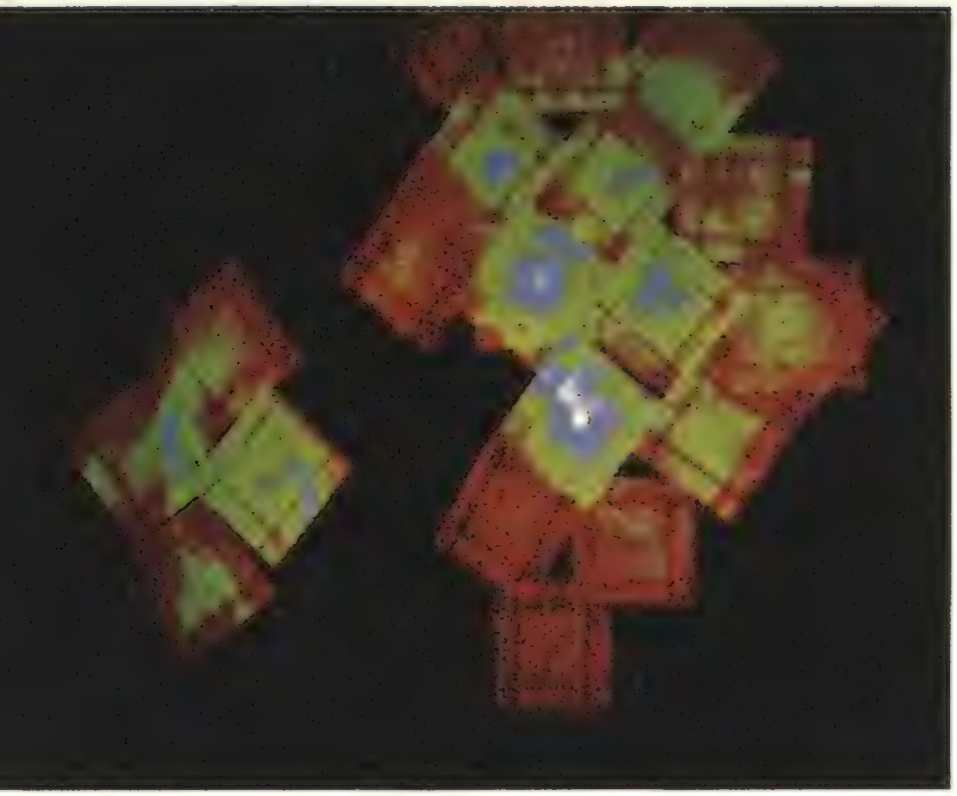
We already knew, for example, that a galaxy in the constellation Centaurus, known as Centaurus A (right), emitted X rays as well as radio waves, and we knew that most of the X rays came from the center of that galaxy. But Einstein gave us a clearer picture: radiation from the galaxy's core, from that part of the galaxy that emits radio signals and, most significant, from a jet—a straight line of powerful emissions—extending out from the center of the galaxy. Seeing these details is analogous to the discovery of structure inside the proton, once considered a featureless particle.

We are learning more about cosmic bursters, objects less than 30 miles across that give off intense bursts of radiation (p. 114). Nearly always found in the tightly packed balls of stars known as globular clusters, they have been watched for years with growing curiosity. Theorists suggested that they were either explosive outbursts on the surface of neutron stars (tiny, incredibly dense, collapsed stars in which all the protons and electrons have been squashed together to form neutrons) or emissions from violent motions in the flow of matter into a black hole. The Einstein observations lend support to both, giving a slight edge to the former. They have excluded, however, the idea of a *massive* black hole lurking at the cluster's center, gobbling up surrounding stars.

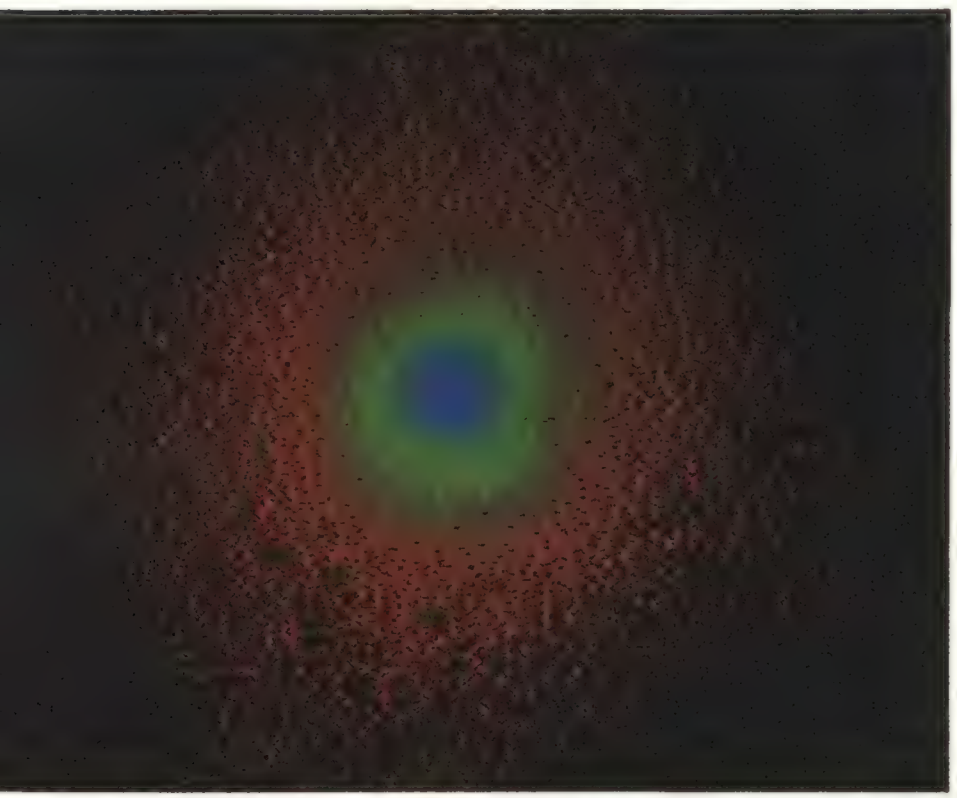
The author, an astrophysicist on the staff of the Harvard-Smithsonian Center for Astrophysics, is a member of the Einstein Observatory team.

Like the Einstein images appearing on the video screen, X-ray astronomy itself had come upon us rather rapidly—in less than two decades.

But why do astronomers care about X rays? Won't optical or radio images suffice to describe the stars? There is a good analogy between celestial and medical X rays: when I look at my hand, I see only the outer surface, but when a doctor takes an X ray, the plate shows the bones within. X-ray pictures of stars give



Composite of X-ray images shows entire Vela remnant, which extends ten times moon's diameter across sky.



Einstein image shows X rays of different intensities, here in arbitrary colors, from galaxy in Virgo cluster.

astronomers a much different view from that in visible wavelengths. The stars are giant, natural X-ray machines and, because only the most energetic processes produce this radiation, X-ray astronomers can study some of the most exciting and violent events in nature: the birth and death of stars.

The observations are not easy, however. Although X rays are an extremely energetic form of radiation, they cannot penetrate the protective shield that surrounds the Earth—our atmosphere. X-ray astronomy has to be pursued from above the atmosphere, with rockets, balloons or satellites. Detectors aboard V-2 rockets after World War II discovered that the sun sometimes glowed brightly in X rays. In the years following the 1962 discovery of X radiation outside the solar system, dozens of sounding rocket and high-altitude balloon experiments logged the existence of some 30 other celestial sources of X rays. Then, in 1970, the National Aeronautics and Space Administration (NASA) launched its first X-ray astronomy satellite, called Uhuru. It carried a simple scanning detector that could tell bright from dark areas, but could not truly "see." Still, it succeeded in finding some 400 X-ray objects in the sky. Similar satellites followed in the 1970s, including NASA's first High Energy Astronomy Observatory, the HEAO-1. But when HEAO-2 (NASA's official acronym for the Einstein Observatory) was readied for launch in November 1978, the stage was set for transition from maps to true imagery.

New approach to X-ray telescopes

Revolutions are not made overnight, of course. Riccardo Giacconi, now head of our group at the Harvard-Smithsonian Center for Astrophysics, had been planning since 1960 for a spaceborne X-ray telescope capable of producing images. But placing a telescope above the atmosphere was not the only problem facing these astronomers. Returning to the medical analogy, a doctor cannot really make an image of the inside of my hand; all he can do is record its shadow because glass lenses will not focus X rays. Nor will normal telescopic mirrors reflect X rays. The extremely short wavelengths simply penetrate the surface rather than bouncing off. However, if a mirror is designed so that the bounce angles are very shallow and if the surface is coated with a special metal (like nickel), optics capable of reflecting and focusing X rays become possible. Possible, but still difficult to construct. Solving the problem required the designing of an unusual "grazing-incidence" telescope in which the mirrors are a series of concentric cylinders.

An Atlas-Centaur lifted the 7,000-pound observatory into circular orbit some 300 miles above the Earth. In the hours immediately following the launch, hundreds of engineers, scientists and technicians worked to bring the Einstein to life. One by one, systems and subsystems were activated. "First light" (a term optical astronomers use to describe that moment when starlight first strikes the optics of a new telescope) came from a sharp point source of X rays in the constellation Cygnus: the satellite worked.

Today, X-ray images of all types of celestial objects are radioed to NASA's ground receiving stations, then

relayed to the Harvard-Smithsonian Center for Astrophysics. Among those objects seen are some as close and as bright as Alpha Centauri, and others as faint and distant as the quasars, strange objects at the very edge of the observable universe. In fact, quasars have appeared with surprising regularity in the Einstein images, suggesting that much of the so-called all-sky X-ray background seen by earlier satellites may be produced by previously unseen quasars.

In between these two extremes, other astronomical phenomena seen for the first time in X rays are causing their own excitement. One of the most unexpected results of the Einstein Observatory has been the discovery that virtually all stars—from hot young supergiants 30 times more massive than the sun, to "normal" sunlike stars, to dwarf stars only a fraction the mass of the sun—emit X rays. Within our own Milky Way galaxy and also in the nearby Magellanic Cloud galaxies, supernova remnants like Cassiopeia A (pp. 110, 111) have provided perhaps the most stunning images. These objects can produce oddly beautiful shells of X-ray emission, as the explosion debris from a dying star expands into the tenuous medium of interstellar space. The knowledge gained from the new images is also helping astronomers understand what happens when these massive stars reach the end of their "normal" lives. One possible fate is a type of "life after death." The supernova sometimes leaves a condensed core of heavy material at its center to form a neutron star, like the one in the Crab Nebula, which spins furiously in the aftermath of the explosion and spews out radiation in beams like a lighthouse beacon. Tremendous amounts of energy can be stored in the rotation of these dense stellar cinders, which are smaller than the moon and yet more massive than the sun. Why some remnants show these puzzling bits of debris and others do not is one of the mysteries that the satellite and its successors may one day solve.

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A 1961 snapshot of Mme Kamel in Cambodia, buried for safety, was dug up when she escaped to Thailand.

On a "stage" of mats in a thatch-roofed "theater" at Khao I Dang refugee camp in Thailand, Mme Kamel

By Seth Mydans

Mme Kamel wages an exotic war for an ancient culture

Forced by Communists to flee Cambodia, a former member of the Royal Ballet teaches traditions of the dance to refugee children

When Pol Pot's rubber-sandaled, pistol-waving soldiers drove out the inhabitants of Cambodia's royal household five years ago, court dancer Mom Kamel buried her most precious possessions: a diamond ring and a snapshot of herself dressed in the ornate costume of a traditional Khmer dancer (above left). For four bloody years under Pol Pot's Communist rule, she pretended to be a simple farmer and hid her identity while the new regime systematically purged the educated class and destroyed the country's culture.

Today in a refugee camp in Thailand, the photograph is all that Mme Kamel has left of her glamorous past as a leading dancer and instructor of the Royal Ballet; that, and her knowledge of an ancient dance tradition now all but extinct inside Cambodia (Kampuchea). At least half of the Royal Ballet dancers are thought to have been killed; many others have fled the country. Preoccupied with continuing war and famine, the new Hanoi-backed rulers cannot turn to reviving Cambodia's shattered cultural heritage. Even the dancers carved in the walls of the temple of Angkor Wat, at the ancient Khmer capital, are crumbling.

performs the classical "Dance of the Angels" against scenery depicting ancient Cambodian temple wall.

Stress of life as a peasant in Communist Cambodia shows on Mom Kamel's face as she speaks of the past.

Mme Kamel and a dozen other members of the Royal Ballet headed for Thailand after Pol Pot was ousted by a Vietnamese invasion in early 1979. A few of them found each other inside the refugee camp of Khao I Dang (technically it is a "holding center for illegal immigrants"). Some of the dancers have sewn costumes and occasionally perform for fellow refugees and foreign visitors, but Mme Kamel has focused solely on the future. She scoured the camp for potential talent among young girls and started a school of dance to help bring a dying art form back to life.

The Royal Ballet had been supported by Prince Norodom Sihanouk, whose daughter, Bopha Devi, was its principal dancer. There are photographs of the ballet, taken more than ten years ago, in several magazines that someone has brought to Khao I Dang. Princess Bopha Devi and Mme Kamel are pictured with a circle of dancers, all supple and lovely in their heavy brocade costumes and golden headdresses. Where are the young women in that circle now, I ask. "Dead. Dead. Dead," answers Mme Kamel as she points her finger at each one.

To start her new troupe, she toured the huge camp and called for all the girls to be brought for tests. Many were still sick and weak from months of malnutrition in the forests of Cambodia. "There is a difference between children who *can* dance and children who can*not* dance," Mme Kamel says. "I know which kind of child can dance." She looked first for charm. Then she put the youngsters through a drill of dance positions. "Sometimes the charm is not so good but the body is good," she adds.

Although in Cambodia little girls often began training at the age of four, those Mme Kamel picked were between six and nine "because for five years we have had nothing." Out of 300 applicants, she selected 67 younger girls and 35 age 14 or older, a dozen of whom had danced before Pol Pot came. In Cambodian dance, virtually all the roles, even those of gods and princes, are played by women.

Mme Kamel's classes begin early in the morning, "when the hands are more supple": rows of barefoot girls in bright sarongs, some wearing silver belts, hold their hands at traditional angles in the air. They at-

Photographs by Jeffrey Robbins

Teacher Kamel helps very young student with classic Cambodian dance as other refugees watch intently.

tract crowds because there is little entertainment in a camp set up to dispense food and medicine. Mme Kamel, a slight, quiet, freckled woman of 47, is strict with her young students. She moves among them, now straightening a back, now correcting the angle of a raised hand. "The children always forget something; the teacher never forgets," says Sek Mean Raci, Mme Kamel's assistant and interpreter.

One of the students is Kem Vicheka (p.125), whose name means November, a lovely girl of 17 who studied with the Royal Ballet from the age of four until she was 11. She says that when Pol Pot's men murdered her father, a cousin of Prince Sihanouk, she was sent into the fields to labor as a peasant. Now she hopes to emigrate to America where she has an uncle.

Mme Kamel and her friends do not want to return to Cambodia until it is at peace and free. "We have enough war. We have enough Communists and Vietnamese. We do not want to meet them again," says Mlle Raci, a bright young woman in her late twenties who was a student before the take-over. Like other educated people in the camp, she survived by pretending to be a peasant. She has lived through hardship and horror: "After Pol Pot my mind is very tired. I think I don't want to study anymore. I just want to live quietly."

The classic dances of Angkor Wat offer a small, unexpected moment of beauty and calm in the hot, noisy camp. The once-proud dancers now live a humiliating and ragged life, fed by international charity and policed by Thai soldiers. By day in this baking, treeless compound, they line up with buckets for a ration of water. Flies buzz around the small cooking pots by their thatched huts. At night a curfew is imposed and they hear gunfire as Thai patrols clash with marauding bandits who have come across the Cambodian border eight miles away. In late June, Vietnamese troops moved into Thailand in force and seized some refugee camps, killing and wounding hundreds of civilians. Many of the injured were evacuated to Khao I Dang, where they remind the dancers of their own days of terror. But when their slow and studied movements bring to life the figures at Angkor Wat, these dancers spin a cultural thread that stretches back across geography and times of turmoil to ancient Cambodia. The form of Cambodian dance is strange to Western eyes: arms and legs at odd angles, lower spine pressed forward, abdomen retracted, while on the face a fixed and enigmatic smile.

The dance, more than a thousand years old and with strong Indian influence, has had a difficult history. When the great Khmer capital of Angkor was

Seth Mydans, an Associated Press reporter based in Bangkok, often visits the refugee camps.

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A group of older girls practice traditional ballet positions while Mme Kamel (center, in dark sarong) moves among them, correcting their form. Refugees seeking diversion in spartan camp crowd around.

sacked by the Siamese, ancestors of the Thais, in the 15th century, treatises on theories of dance were lost and its performers, along with the Khmer court, were carried off by their conquerors. Like Mme Kamel, they found themselves in Thailand.

Not until the 19th century, with the rebirth of the Khmer monarchy, did the dance return to its homeland. But it was much changed. The fluid, earthy movements of the bare-breasted, hip-swinging women of Angkor Wat were gone forever and the number of movements was reduced. Only 30 or so basic gestures have retained their original symbolic meanings as they were passed down from teacher to student in the oral tradition that Mme Kamel continues today.

In sharp contrast to this rigid, painstaking preservation of the past is the lively creativity of the folk drama being performed in the camp. Tauch Khoeum, a 41-year-old former schoolteacher and professor of dance, formed a committee of musicians, artists and dancers who began, almost immediately upon arrival at Khao I Dang, to write and present plays. With makeshift musical instruments, costumes and scenery, they dramatize life under Pol Pot, life today under Vietnamese occupation, and the traumas of escaping from one's homeland. Theirs is the first attempt to turn years of suffering into art. The performances draw tears and sometimes laughter from the audience.

On a "stage" of mats with a blue plastic backdrop in a thatched "theater," Pol Pot's soldiers appear once again (p.124). A Buddhist monk in a saffron robe is cursed and kicked. AK-47 automatic rifles, carved from wood, are waved in the air. Threats are shouted. A man is hanged by the neck from a bamboo beam. His crime? He is a student. Another is struck with a hoe, a favorite killing tool of the Pol Pot regime. A young woman is partially stripped on stage; she screams and begs for help, then is led off to be raped. A woman in the audience begins, alone, to laugh sadly.

"You only see," Mlle Raci whispers to me, "but me, I myself, I carry the memory every day. This is a story truly true. Not exaggerated." The next episode, "Where is Justice Now?" opens to the mournful music of a makeshift flute—a short length of iron pipe drilled with holes. Accompanied by slow drums, eight peasants—dancers in black—move across the stage, floating like shadows, then sink to the ground in ex-

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Armed Pol Pot soldiers threaten helpless civilians in folk drama that re-creates refugees' suffering.

haustion, one by one. In the audience, the children's eyes grow round when two Pol Pot soldiers run shouting onstage. They force the people back to work, telling them they are lazy and do not deserve to eat. "You know," Mlle Raci explains, "we work hard and when we come back to our home we have no rice to eat. Sometimes we cannot sleep well without eating and our stomach is very hungry. We work at night, too. Under the light of the moon."

The troupe sometimes seem to act out fantasies they have had during the years of repression. In "Tears Fall Twice," a representative group of victims—a student, an intellectual, an anti-Communist soldier—face down their executioners with fatally brave words. The intellectual: "Is this your strange liberty, freedom, justice, happiness, classless society? You have massacred the people, slaughtered them, thousands upon thousands, millions upon millions, without thinking that theirs is Khmer blood just like yours." The student: "What is the meaning of your revolution, of your revolutionary nationalist party? It is just nonsense." The soldier, before being beaten and hanged by the neck: "You are all crocodiles."

But there is broad comedy, too. In one episode two frightened men in patched pants scramble in fear from a booby trap, Vietnamese soldiers and even the hanging microphone that follows them around the stage. The booby trap turns out to be a tin of sardines; the soldiers are just friendly Cambodian guerrillas who lead the refugees to a camp in Thailand. There they see trucks and vans for the first time in five years, jump nervously at a TV cameraman and answer an American reporter's questions with "OK, yes, OK, yes." The audience loves it. The Cambodian victims are always portrayed with gentle, ghostlike movements as though the story they tell is all a dream. But they are playing themselves. At every performance, a visiting Westerner is sure to be approached by someone whispering urgently, "This is a story truly true."

For Mme Kamel, the story began with the death of her parents when she was a small girl. She was adopted by a couple who worked as cooks in the royal household in Phnom Penh. At eight she caught the eye of Prince Sihanouk, who gave her a chance to train with the Royal Ballet. Splendid years followed; she performed for heads of state and danced in Western capitals. At 37, as war was beginning to shake the peaceful tempo of Cambodian life, Mme Kamel became a teacher in the Royal Ballet.

In 1975 when Pol Pot's men barged into the palace dancers' world, the first thing they wanted was jewelry. They overlooked Mme Kamel's diamond ring, so she buried it, together with the picture taken at Angkor Wat when she was about 27. For four years her treasures lay hidden while she lived as a peasant.

Like more than half a million survivors, Mme Kamel fled toward Thailand as soon as the Vietnamese took over, taking along her snapshot "to remember the past." She also took with her an obsession to preserve the dance form that had been her life. "This method of dance, slow and gentle, is Cambodia's soul. If we lose the dance," she says firmly, "we lose the soul of Cambodia."

On this day Mme Kamel is demonstrating the classic movements of Khmer dance for a visiting photographer. When he arrives, she is being sewn into a golden dress in the manner of the old court dancers. She has a flower in her hair and wears her diamond ring. She is nervous, as she used to be before performing for royalty. Offstage a chorus of women's voices begins a time-honored text, the lyrics preserved only in their memories. Mme Kamel begins to demonstrate the movements: she is happy; she is angry; she is thinking; she is playing. Charged with energy, her entire body flows in controlled motion as she changes from one position to the next. Now she weeps. Now she flies. Now she falls in love.

Suddenly Mme Kamel is dancing (pp.118-119). When she finishes, she walks over to her little audience and confides, "This is the first time I have really danced in five years." Dust floats through the sunshine around her. "I am sorry that I am not in my best form."

As Kem Vicheka dances—her arms showing love, her face sadness—she becomes the "soul of Cambodia."

A painting that has become part of the consciousness of the country, Hopper's unforgettably evocative

By John Canaday

The solo voyage of Edward Hopper, American realist

His vision of loneliness was long overlooked, but now a compelling retrospective exhibition reveals that his work is secure for the ages

Art Institute of Chicago; Friends of American Art

Nighthawks, 1942, contains all of his trademarks: simplification, hard light and a still isolation.

At the opening reception for his 1964 retrospective at the Whitney Museum of American Art, with such dignitaries as Alfred H. Barr jr. of the Museum of Modern Art and James J. Rorimer, director of the Metropolitan Museum, waiting in line to congratulate him, Edward Hopper surprised me, delighted me and embarrassed me by insisting that I sit down beside him for a conversation. We didn't find much to say. I kept telling him how good the show looked, and he kept responding, "Tomorrow the knocks. Tomorrow the knocks." Eighty-two years old, the grand old man of American art and full of honors,

Collection of Mr. and Mrs. Peter R. Blum

Painstakingly deliberate in his art, Hopper made many studies for paintings (here, one for *Nighthawks*).

Hopper three years before his death was still fearful of rejection and bitter about early slights.

I had written enthusiastically about his work, but so had virtually every other American critic by that time. Looking back, I feel sure that Hopper singled me out for attention that afternoon less because of what I had written about him than for my having gone on record a few years earlier with some reservations about abstract expressionism when that movement was at its height. It was as if Hopper took the success of the New York School as a personal affront that outweighed his favorable reception even by critics who were responsible for the rise of Pollock, de Kooning, Rothko and the rest. Their respect was not enough to satisfy him; he seemed to feel that he was accepted as a token survivor of realism in an age that had grown hysterical over abstraction.

This was true to some extent. But now that the dust has settled over that tiresome battlefield, it is becoming possible to see Hopper simply as a great American painter rather than the great exception to the rule that American painters of his generation and the next were important to the extent that they experimented with innovative concepts. We are also beginning to see that Hopper himself was more innovative than he seemed in immediate context with his more obviously adventurous contemporaries. If any doubts on that score need clearing away, they should be taken care of by his current retrospective, again at the Whitney, which includes works never before exhibited from the massive legacy of some 2,000 items left to the museum by his widow in 1969. For the first time, Hopper's very

John Canaday, critic and author, most recently of What is Art?, *wrote on the Museum of Modern Art's 50th anniversary in* SMITHSONIAN, *November 1979.*

Edward Hopper's solo voyage

early work and work done just before his death (in 1967) can be seen in unified context with the work by which he has been best known.

Seen in its entirety, Hopper's lifework is remarkably self-contained, a reminder that during a career that stretched across the most eventful half-century in the history of American art, he remained a loner. While one group of painters after another banded themselves together to proselytize this or that idea of what American art should be—from realism to abstraction and back again with bypaths in all directions along the way—Hopper, who now looks more and more like the most American artist of them all, did not or would not quite fit in anywhere.

He still doesn't. Classifiable as a realist within the extremely elastic boundaries of that term, he was in fact a one-man school. Painters who, by stretching a point, could be called his followers have borrowed the stylistic elements of his realistic surface without probing far enough beneath them to discover their expressive reason for being. Nor are there any painters who can really be called his predecessors in the revelation of a special world—which is not at all a very happy world—that Hopper sensed beneath the surface of daily life in his country.

To label Hopper the painter of loneliness has become a cliché, yet the epithet is no less true for having become trite. To understand Hopper it is important to remember that his loneliness, his detachment, was not the usual alienation from society shared by other artists. The alienation of a group can be a form of companionship for its members, and has been ever since the romantic movement of the 19th century, when artists declared their independence from the strictures that society would have put upon them, by their revolt against the establishment, their Bohemianism, their eccentric behavior. Hopper's alienation was a personal thing, inner and undeclared except in his art. In dress and demeanor he might have been taken for a high-ranking university professor of literature, history or classical civilizations who allowed himself no more drastic departure from convention than the convenient uniform of a good tweed jacket and slacks for all occasions.

Whitney Museum of American Art; Bequest of Josephine N. Hopper

In France, Hopper was delighted and stunned by the light. He painted *Le Pavillon de Flore* there in 1909.

Maintaining the patrician stance

Neither a snob nor a rebel, he was equally incapable of ingratiating himself with powerful dealers and collectors, and of taking part in the camaraderie of the bars, the clubs, the studio parties that played such important parts in the lives of other American artists during his lifetime and served as catalysts for the crystallization of art movements. If he was aware in the last two or three years of his life that instant art historians were beginning to settle on him in their search for a progenitor of pop art and the new realism —pop art with its deliberately blatant vulgarity, and the new realism with (in its early stages) its deadpan, noninterpretive reproduction of the visual world—he could not have been pleased. In his observation of the most commonplace, or vulgar, aspects of the world around him, Hopper always maintained an essentially patrician stance, and any seeming objectivity in his realism is an illusion created by his unwillingness to emotionalize the expression of personal responses that in truth he felt deeply. He achieved the unlikely feat of keeping his distance while probing sympathetically to reveal the poignance of the human dilemma.

In *Nighthawks,* probably his best-known painting, he gives his often repeated theme of urban loneliness

Collection of Mr. and Mrs. John Hay Whitney

Hopper had no one place in mind when he painted *Cape Cod Evening* in 1939. The mood is universal.

In *Summer in the City*, isolation is intensified by stark light, cagelike verticals and horizontals.

Private Collection; Courtesy of Berry-Hill Galleries, Inc., New York

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Whitney Museum of American Art;
Bequest of Josephine N. Hopper

Hopper's finished figures were deliberately distorted as in *Office at Night*, but drawing above shows facility.

its most desperate, yet detached, expression. Faced by this picture, we are likely to accept without thinking about it that the mood is inherent in the subject. Not so. The all-night food counter, brightly lit on a corner of deserted streets, could just as well have been shown as a cozy haven in contrast with the desolation of the dark city outside the windows, a place to take sanctuary for a pause in the coming or going to wherever we come or go during the bleakest hours between midnight and dawn. A mood of casual bonhomie is only one of a dozen others that could have been developed in different directions from the preliminary drawing for *Nighthawks*, which is a notation in the general style of Hopper's commercial illustrations. (As an exercise involving time warp, we might imagine how Toulouse-Lautrec would have transformed this material; for that matter, there is Vincent van Gogh's *Night Café* with its hectic atmosphere of barely suppressed violence, for direct comparison.)

In the drawing (p.127), Hopper shows a young man and woman seated close together and turning toward one another; the counterman nearby is a potential conversational third; the only other customer, while separated from the trio, could be an interested spectator. The painting changes all this. Now the couple stare straight ahead, as isolated from one another as if they were in separate rooms rather than on adjacent stools. The figures are smaller in the total space; the distances between them, while only moderately extended, are sufficient to define their solitariness. All incidental details have been eliminated from both the interior and exterior scene to create a stark, uncompromising environment. The light, which could have been treated as a Rembrandtesque pool of radiance within warm shadows, is kept hard, flat, uniform, impersonal, relentless—a light at once high keyed and bleak, cold for all its brilliance, devoid of energy or spirit. *Nighthawks* is the kind of painting, frequent in Hopper's work, in which the mood is established with such finality that the observer is unlikely to recognize the departures from straight realism that account for it. In his special way, Hopper is often as much an expressionist—that is, an artist who makes his effect by violations of normal visual reality—as he is a realist.

His treatment of the figure, clothed or nude, must also be counted an expressive distortion. Even some of his sympathetic critics apologize for the "heaviness and awkwardness" of his draftsmanship, and indeed the description is justified—but not the apology. Hopper was an excellent draftsman of the human body as the wonderfully flexible, beautifully articulated structure that it is, when he wanted to be. There

are drawings made in sketch classes, as well as etchings and early paintings of nude women in their cramped, lonely bedrooms, that are sufficient evidence of his skill as a conventional draftsman of the figure. And in one of his most poignant subjects, *New York Movie* (below), painted in 1939, the little usherette (originally posed for by his wife, Jo) is captured in an attitude as natural and expressive as Daumier might have achieved, which is high praise indeed.

Ordinarily, however, the sense of estrangement from life (without any compensating life in a world of fantasy) that is Hopper's dominant mood is incompatible with an easy, relaxed, flexible representation. He peopled his world with men and women designed on a formula that in extreme cases, such as some of his scenes in offices, reduces them almost to effigies.

Painting the victims of the city

The appropriateness of these stiff and even ungainly figures can be understood if the man and woman in *Summer in the City*, as a test case, are imagined drawn and painted in any other way. As it is, they are consistent with the spare, unyielding, isolated —and we always come back to the word "lonely"—atmosphere of the cubicle they inhabit, which has been stripped down, Hopper fashion, to minimal definition. If the couple were shown more naturalistically, or idealized as, say, a Rubenesque pair—the man an athlete, richly muscled, with blood coursing beneath a moist skin, and the woman his counterpart in, perhaps, a gauzy slip—if the figures are imagined in this way or another, we might have an interesting picture that could still be called "Summer in the City" but it would not be Hopper's city with two people as its typical victims. And Hopper's city people who summer on Cape Cod, as he did, only partially escape the constraints of the city. The men and women (did Hopper ever paint a child?) in pictures like *Cape Cod Evening* (which could as well be called "Summer in the Country") are hardly more at ease than those in *Summer in the City*, as if unable to acclimate themselves to the full, unobstructed light of the out-of-doors.

It is worth mentioning that there is nothing autobiographical in Hopper's preoccupation with bleak hall bedrooms in his pictured interiors. In 1913, as a 31-year-old bachelor, he moved into one of the most desirable locations in New York, 3 Washington Square North, where he lived for the rest of his life. Growing a little shabby, but not yet mutilated as it is today, the square was still a garden spot where uptown met downtown, with the memory of its aristocratic past still fresh enough to flavor the vigorous upper-class Bohemianism of the artists and writers who were flourishing in Greenwich Village. Life on the square and in the Village came as close to artists' life in Paris as life ever came in America. Yet Hopper, who loved Paris, never accepted this American Bohemia as part of his life or as subject matter for his painting, remaining circumspectly apart from it.

Hopper first went to Paris in 1906 and stayed into 1907, when he turned 25. During those same years another young foreigner, a scant nine months older than Hopper, was at work on a painting that later would be dubbed *Les Demoiselles d'Avignon*. When Hopper returned to Paris in 1909, the cubist revolution signaled by Picasso's *Les Demoiselles* was approaching its climax, while fauvism, the twin revolution, had already dissipated as anything like an organized movement. But if Hopper felt the impact of this double upheaval, nothing in his work showed it. He loved the look of Paris, the wonderful city that anyone lucky enough to have known it even as late as 1930 can still find reflected in Hopper's impressions of a tugboat passing the Place St. Michel—a fresh, exuberant painting freely scattered across the canvas; or a view of the half-elegant, half-decayed facades of the Quai des Grands Augustins; or the *bateaux-mouches*, which still plied the Seine as a form of public transportation —a sort of waterborne Metro—instead of serving as tourist sight-seeing boats as they now do; or the Louvre's Pavillon de Flore, a palace rising above the banks of the Seine beyond a *lavoir* in the foreground (p.128). He made quick conté and pencil sketches of such standard picturesque subjects as derelicts sleep-

Museum of Modern Art, New

Hopper's wife, Jo, posed for what has become one of his best-known paintings, *New York Movie*, 1939.

Whitney Museum of American Art; Bequest of Josephine N. Hopper

A taciturn, private man, Hopper nevertheless drew many revealing self-portraits, this sketch in 1945.

ing under the bridges on riverbanks now sacrificed to automobile traffic.

There was nothing original in young Hopper's choice of subjects nor, for that matter, anything particularly unusual in his treatment of them, although in their broad, vivacious brushwork they can be called impressionistic at a time when impressionism, a generation after its rise in Paris, still passed for modern art in America. Loosely related, technically, to the style of one of his teachers, Robert Henri, these Parisian scenes are Hopper's happiest paintings. They are delightfully evocative and, minus the nostalgia, must have been just as evocative at the time. The wonder is that they found no better market (which means they found no market at all) than the sober American scenes that he was beginning to paint at home.

Hopper's *Pavillon de Flore,* a palace by a river, and his *House by the Railroad,* a late-19th-century mansion that has hit upon bad days, illustrate the contrast between his happy vision of Paris as a young visitor, and the analytical engagement with the American scene that he developed as a native son. *The House by the Railroad* has become a standard example of his pioneering in the discovery of a form of the picturesque indigenous to urban America, an exploration shared by, among others, Charles Burchfield. But where other painters, even including Burchfield, transferred to this decaying architecture the disheveled romantic look that had always marked such traditional picturesque subjects as old barns, Hopper dignified his subjects by presenting them as studies in light and volume that made his paintings the equivalent of true poetry in contrast with the doggerel of the merely quaint.

What this means, of course, is that Hopper, like great realists of all times—Giotto, Caravaggio, the Le Nains, Degas—was as concerned with abstract values as means to an end, as were the members of the New York School with abstraction as an end in itself. His mastery of these values was recognized when a brand-new institution called the Museum of Modern Art acquired *The House by the Railroad* 50 years ago as one of its initial purchases. Hopper, whose etchings had been shown in several group exhibitions at the Whitney Studio Club—the modest egg that hatched the Whitney Museum of American Art (SMITHSONIAN, August 1980)—was now raised from the status of local etcher to that of an American painter worthy of inclusion in the Modern's basically European-oriented program. The rest of the way was up—not sensationally, but steadily. There were retrospectives at the Museum of Modern Art in 1933 and at the Whitney in 1950 and 1964. Immediately after his death a group of his paintings were included in the American section of the São Paulo Bienal; the current Whitney retrospective, on view from September 23 to January 18, will travel to the Hayward Gallery in London (under the auspices of the Arts Council of Great Britain), the Stedelijk Museum in Amsterdam, and the Städtische Kunsthalle in Düsseldorf—all bastions of modernism—before winding up at the Art Institute of Chicago (October 3-November 29, 1981) and the San Francisco Museum of Modern Art (December 16, 1981-February

10, 1982). The exhibition is sponsored by Philip Morris Inc. and National Endowment for the Arts.

Since Hopper lived to see his American triumph completed, as well as early indications of international recognition, his "Tomorrow the knocks, tomorrow the knocks" at a moment when his reputation was unassailable may seem irrational. He had, in fact, suffered less from "knocks" than from the silent criticism of neglect. In 1915 he was roundly trounced in the press for his sole (and today not at all impressive) venture into the field of Frenchified modernism, a painting called *Soir Bleu,* but he resented much more the fact that he was unable to sell a painting until 1913, when he was 31 years old, and didn't sell another for the next ten years. At 42 he found his first dealer, Frank Rehn, who gave him an exhibition of watercolors that was successful enough to allow Hopper to give up the commercial work that had kept him going (without hardship) until then. He never suffered in the misunderstood-genius pattern of such artists as van Gogh and Gauguin, but it was also a form of suffering to have to support himself into middle age with commercial art while his serious painting went begging.

Hopper was a complex man and not a forgiving one. In 1932, in the early days of his success, he allowed himself the pleasure of rejecting the National Academy of Design's tardy invitation to membership: the Academy had turned him down too often in the past. But the question of why old slights and frustrations continued to nag him is of no importance alongside the fulfillment of his late work. *Sun in an Empty Room,* a painting of his old age, is a glorious picture, as abstract as it is realistic, as symbolical as it is literal, joyous and serene in every aspect. Painters of any time or place who in their old age have achieved profound expressions of faith, Titian and Michelangelo among them, would have understood *Sun in an Empty Room.* But only Edward Hopper could have painted it.

Summing up, he once said, "What I wanted to do was to paint sunlight on the side of a house." In this late period painting, *Sun in an Empty Room,* 1963, Hopper's skill with light and design is clear.

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Somewhere in Montana, 70-odd years ago, a family poses with its prized right-hand-drive, high-wheeled "motor wagon."

By Horace Sutton

Way back when: frisky, risky birth of the auto age

Speed limits were low, roads awful, early "autoneers" were daredevils when we first took to whizzing wheels

For the American traveler, the period from 1900 to 1914 was a rich and bountiful era. The ships that steamed across the Atlantic grew longer and faster. The grand hotels were so grand they were known as palaces. And itineraries were so exotic they were called Grand Tours.

But this was all frivolity before the storm. In history's eye the era, short as it was, belonged to the mechanics tinkering in the machine shops, for while wealthy Americans went tripping off hither and thither, it was the inventors who stayed at home and developed the automobile, a grown-up toy that would do away with the horse and change the ways of Man's movement for all time.

In 1896 there were several dozen automobiles in all the United States; by the century's turn, there were thousands, very few highways, lots of jokes.

People who drove cars were called chauffeurs, or better yet, autoneers. Out in Ohio, people collapsed in gales of guffaws over the difficulties of one autoneer who, encountering a horse and carriage, brought his machine to a halt and jumped down to help lead the horse past it. A small boy who held the horse's reins was calm, but the lady beside him was screaming. "Let me take care of the horse," the youth shouted to the driver. "You lead Maw past that contraption."

The marshal of Sparta, Ohio, dispatched a written warning to one local auto owner. "Not being able to see you personally," the lawman wrote, "I take this method to warn you to stop at once speeding your auto through this town as you endanger the lives of citizens. You are not to run it above five miles an hour under penalty of arrest and heavy fine."

The history of speed traps began almost with the emergence of the automobile. Constables disguised themselves as road workmen and stood ready to swing a rope across the highway to stop any motorist exceeding the speed limit of eight miles an hour. In Lancaster, Massachusetts, the cops posted themselves at the bottom of a hill, a point at which motorists had to gather all speed possible

This article is adapted from Travelers: the American Tourist from Stagecoach to Space Shuttle, *to be published this month by William Morrow and Company.*

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"Mr. Spurt scattering animals" was one of a series of Boggs Beale drawings.

in order to get their machines over the crest. They caught eight, who were taken into court and fined $15 each.

Lawmakers and the police were goaded by anti-automobile societies which lobbied for stricter limitations. One bill called for any self-propelled vehicle to come to a complete halt upon approaching any crossroad. Said the statute:

"The engineer must thoroughly examine the roadway ahead, and sound his horn vigorously. Then halloo loudly or ring a gong. Afterwards, he must fire a gun of sufficiently audible character to be heard at a great distance. Thereupon he will dismount and discharge a Roman candle, Vesuvius bomb, or some other explosive device as final warning of his approach."

Any autoneer, chauffeur or engineer who followed the letter of this law could, of course, be arrested at the same time for disturbing the peace, breaking the Sabbath, illegal transportation of explosives and discharging firearms within the city limits. The politicians, not yet sensitive to the feelings of the auto workers, much less the auto owners, strove to protect the horse. One law held the driver of a car that had caused a team of horses to rear and bolt was liable to a fine of $100. Should the horse refuse to pass the car at all, the driver then was required to camouflage his car with a cloth painted to look like a landscape.

As for the early automobile admen, they turned to the newspapers and magazines and came up with such sales talk as:

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Some of the hardships that demoralized the car owners were not mentioned. Automobiles began bumping into one another. One Philip Hagel earned the unhappy honor of having to pay the first automobile damages when he drove his French De Dion Bouton up Manhattan's Broadway. This momentous ride cost him many thousands of dollars, the total of damage judgments awarded owners of New York horses frightened by their first sight of a horseless carriage.

The initial automobile death occurred in 1900 and the victim was one Hieronymous Mueller. While filling the gasoline tank of his automobile, he came too close to a flame that ignited the gasoline and set his clothes on fire. Said the insurance adjuster with some premonition, "Mr. Mueller was so badly burned that he died in a few hours. This is the first fatal case of this kind which has come to our notice. There are undoubtedly more to follow although the manner of accident may differ."

Motorists in this era bought their gasoline at a hardware store and then filtered it through a chamois. They carried enough equipment to replace a broken fan belt, change sparkplugs, insert new gaskets, and pump and patch tires, all considered minor repairs. (Anything more ambitious required the attention of a blacksmith.) The road system was a nightmare and heaven help the highwayman when it rained. Hopelessly mired motorists who had to be hauled out of the mud provided a new source of income for the farmer and his horses. Some farmers were supposed to have rushed back to the roads in the dark of night to refill the larger mudholes with water.

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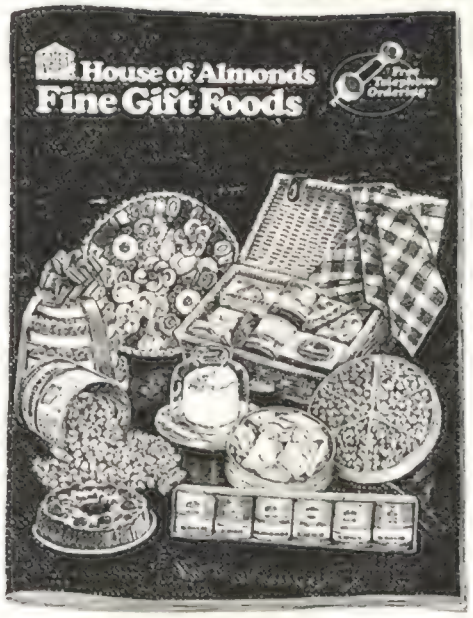

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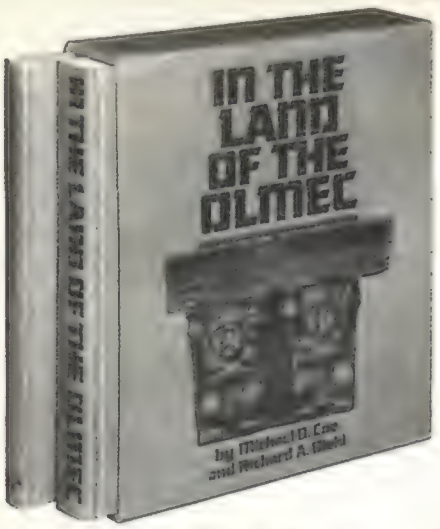

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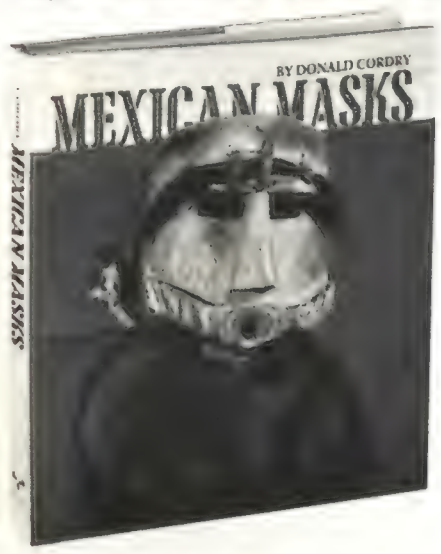

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culties, the owners of the first cars encountered social criticism. Automobiles were called "rich men's toys" and worse. One glib social orator of the day denounced them roundly as "Devil wagons in which our wealthy and flanneled *samurai* are hurtling down the primrose path of privilege at twenty miles an hour." When he was still president of Princeton University, no less an intellect than Woodrow Wilson was moved to blame the automobile, of all things, for certain political manifestations. "Nothing has spread Socialistic feeling more than the automobile," he said. "They are a picture of arrogance and wealth with all its independence and carelessness."

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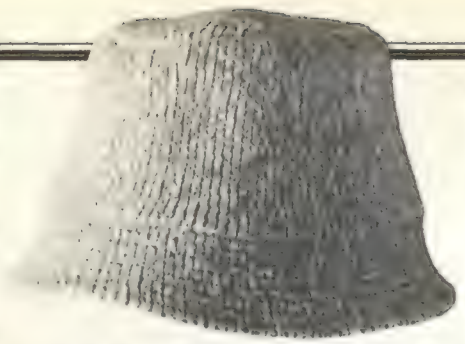

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product, tours. Car owners first banded together in New York in June of 1899 and formed an association. The club moved, first of all, to eliminate the restrictions against motor vehicles in New York's Central Park. Two of the wealthiest members cranked up their engines and drove into the park on a dare. They were not arrested, and automobilists all over the country took heart. By 1902, the American Automobile Association was formed. One of its aims was to erase prejudice on a national basis. There was certainly plenty of it around. Cars were categorically barred from national parks until 1908. Seekers after pristine scenery were required to take a horse-drawn sight-seeing wagon—or walk.

There being neither a war nor an income tax at the time, public conversation and the public pleasure turned toward cars. More and more people bought them every year, venturing away from the hearth on weekend jaunts, carrying with them, besides all that emergency equipment, a copy of the *Automobile Blue Book*. The *Blue Book* carried maps, but just to be on the safe side, it also described each suggested route. "Turn right at red barn," ran a typical description, "then 1.5 miles to P.O. and a General Store. Take left fork on narrow dirt road. Maybe bad in wet weather."

The first daredevil who embarked on a cross-country trip—it was 1903—took 64 days—44 of actual driving—to reach the East Coast. The trouble was that there was really not much road to chart, for by 1904 only seven percent of the two million miles of publicly owned U.S. road could be called improved. There were only 150,000 miles of surfaced road. And "surfaced" meant that the highway had a coating of some sort, usually gravel, dirt and slag, but it might be oyster shells or sawdust or rough planks. In all the country, only 37,000 miles of road were paved with water-bound macadam or stone.

A Bostonian named Charles Glidden, who had done well in the telephone business and who was an autoneer and a pioneer tourist, donated an elaborate trophy which the American Automobile Association was to present to the winner of a reliability tour. Participants were to journey from New York to Bretton Woods, New Hampshire, and back. The competitions were to show the glories of touring the land, and also to emphasize the deplorable condition of the nation's roads. The first Glidden Tour, in 1905, drew such automotive pioneers as Ransom Eli Olds, Percy Pierce of the George N. Pierce Co. and Walter White of the White Sewing Machine Company.

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The image of the Madonna and Child is constructed detail by detail, the details painted with as many as eleven different transparent colors, then fired at 1100 degrees Fahrenheit until each color becomes an indissoluable part of the glass itself.

Craftsman inspects plate

The result is a masterwork in translucent painting permanently imbedded in thick, richly-textured glass, its effect a constantly changing response to interior and exterior light. Such is the wonder of high stained glass art.

AN AURA OF POLISHED PEWTER

In the Christmas Plate, 1980, this magical interplay of light with image is intensified by a lustrous rim of lead-free polished pewter, two inches wide, providing the painting itself with a graceful, imperceptible shower of light. The flawless pewter rim was created by Kirk Stieff, the same master pewterers licensed by Colonial Williamsburg and The Smithsonian Institution.

AMERICA'S WESTMINSTER ABBEY

Washington Cathedral (D.C.) is a monument to American faith. The sixth largest cathedral in the world, the massive Gothic structure looms over the Washington landscape, its crowning tower soaring 301 feet into the air.

A view of Washington Cathedral

Originally intended to be America's Westminster Abbey, it has instead come to rival the great cathedrals of Italy, France and Germany for the scope and endless complexity of its design, and the sublime achievements of the artists and artisans who created it. More than one hundred life-size sculptures adorn the reredos behind the high altar. The tower is decorated with 396 angel heads. Larger-than-life statues in stone glorify the transept entrances, chapels and bays. Its stained glass windows are a phantasmagoria of celestial visions. The Madonna and Child window is in the Bethelem Chapel of the Cathedral.

SACRED ART FOR A SACRED SEASON

"Madonna and Child" is the only replica of Walter Tower's window authorized by the rectors of Washington Cathedral. It is issued in a limited edition of ten thousand numbered plates and further authenticated by a numbered certificate accompanying the plate.

Bethlehem Chapel

Each plate measures 10 inches in diameter (25.4 cm.) and comes in a handsome presentation box making it eminently, pre-eminently suited for gift-giving. The offering price of 125 dollars includes the presentation box, a lucite display stand, and all shipping charges. To order send the coupon to: U.S. Historical Society, First and Main Streets, Richmond, VA. 23219.

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FROM MERRIAM-WEBSTER®

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Like all early cars, this one had to be cranked to start. The woman is cranking

year before, drew a crowd of 25,000. It proved such an unmanageable horde that after the first few cars had crossed the finish line, the race had to be stopped. The trophy went to a French Panhard, which averaged 52.2 miles an hour over the 284.4 mile course.

Soon the hotelmen of New England, a group never exactly unmindful of new ways to turn a dollar, were sending out tour books and brochures. So many autoneers were pulling up at hotels in the Northeast that innkeepers had to establish some rules for decorum. In Maine, the Poland Spring House posted an ordinance prohibiting dusters and goggles in the lobby on Sundays.

Ladies turned to their magazines for advice. "I have been invited for a week's trip in an automobile," said an inquiry received by *The Ladies' Home Journal.* "I feel that a motoring bonnet which ties under the chin is unbecoming. What do you suggest?" The *Journal* told the lady to deck herself out in a blue taffeta tam-o'-shanter.

"See America First" proved a versatile slogan. While it was patriotic, it also sold cars. By 1908 there were 170 different makes to choose from, and a number of different ways to make them run. The list of names ranged alphabetically from

a four-cylinder "toy tonneau," circa 1905, as touring car was called in those days.

the Albany and the Apperson to the Success and the Zimmerman. There was a Packard as well as a Pickard, a Pierce-Arrow as well as a Sharp-Arrow. You could ride in a Klink or a Kiblinger or pick either a Bendix or the Bugmobile (shades of Volkswagens to come!). The Stanley Steamer, a racing version of which established a sensational record of 127 miles an hour in January 1906, was known as the "Flying Teakettle." It took a strong early lead over what was called then the "internal explosion" machine. By 1912 there were hundreds of makes of cars run by gasoline, steam or electricity.

When it came to accessories, the motorist was faced with a myriad of new inventions, not the least of which was Bosco's Collapsible Rubber Driver. This device, when inflated, looked more or less like a man. Placed at the wheel, it was supposed to scare away would-be thieves. "No thief ever attempted to steal a car with a man at the wheel," the ad for Bosco's Collapsible Driver said. "It's so lifelike and terrifying that nobody a foot away can tell it isn't a real live man." When not acting as a sort of pneumatic scarecrow, Bosco's rubber man could be stored flat under the car seat.

The social notes filtering down from Newport as early as 1906 recorded that

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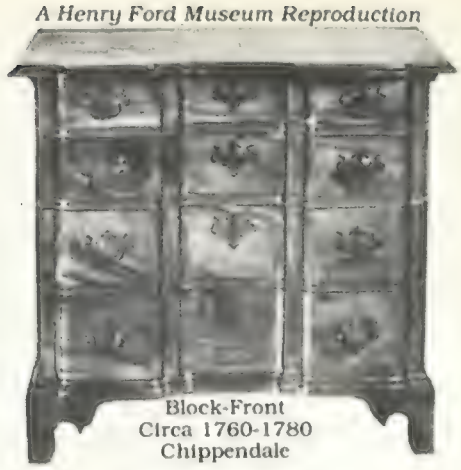

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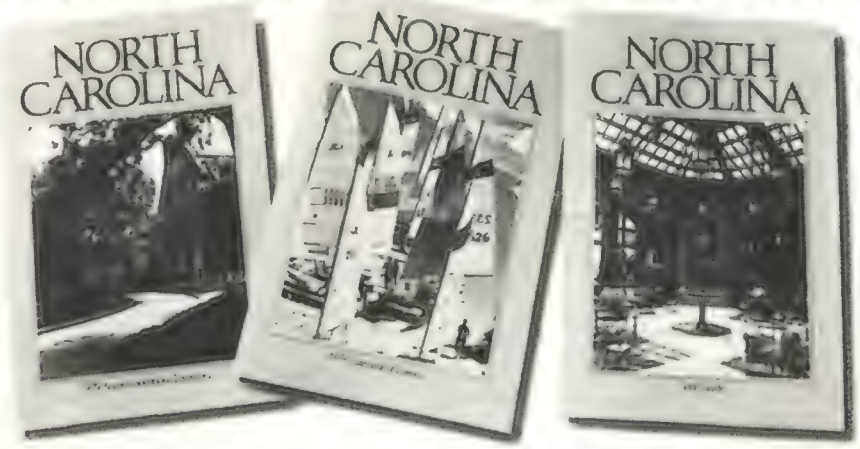

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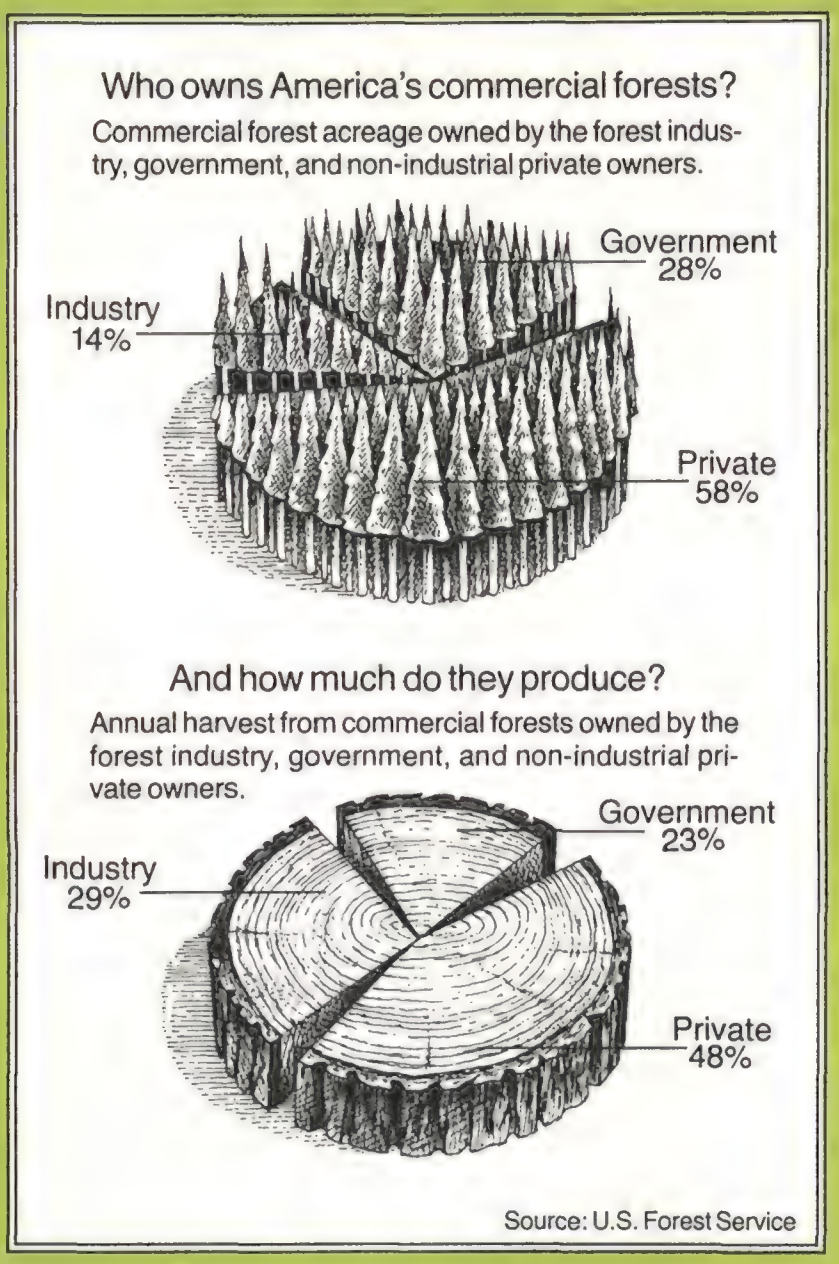
A report on the great American forest.

Good forest management means growing more trees. Not sharing shortages.


Who owns America's commercial forests?
Commercial forest acreage owned by the forest industry, government, and non-industrial private owners.
Government 28%
Industry 14%
Private 58%
And how much do they produce?
Annual harvest from commercial forests owned by the forest industry, government, and non-industrial private owners.
Government 23%
Industry 29%
Private 48%
Source: U.S. Forest Service

It's no accident that the most productive forests in America are those owned and managed by the forest industry.

Although they make up only 14% of the commercial forestland, they provide 29% of the annual timber harvest.

This is because the industry has learned that it's not only possible to grow more trees faster, but also imperative.

It's a race against time: Every year Americans need more lumber and plywood to build homes. More furniture to make them liveable. More paper and pulp to print the books and periodicals that educate, enlighten and entertain. More packaging and containers for thousands of essentials, from milk to machinery.

The sobering fact is that within 50 years U.S. demand for wood and paper products is expected to double.

Yet not all the nation's commercial forests are working equally hard to get ready.

What is a commercial forest?

Commercial forest, as defined by the U.S. Forest Service, is *all* forestland — whether owned by individuals, government or the forest industry — that is capable of, and potentially available for, growing repeated crops of trees for harvest. It includes land in National Forests but not in National Parks or Wilderness areas.

On all commercial forestland, tree growth per acre averages only 61% of potential, which is not good enough. The greatest room for improvement, however, is in National Forests, where trees now grow at only 48% of potential.

Yet as the industry has shown, the growth cycle can be speeded by applying such techniques as: encouraging natural regrowth, planting superior seeds and seedlings, fertilizing, thinning and protecting trees from disease, insects and fire.

How soon can we start growing more trees?

Since we clearly have the know-how to grow more and higher-quality trees, how soon can this nation get on with the job of increasing productivity on *all* commercial forestlands?

The first step is to understand the problem. If you'd like to learn more about the importance of America's forests and the challenges they face, send for a free booklet, "The Great American Forest." Write American Forest Institute, P.O. Box 873, Springfield, VA 22150.

The great American forest. Trees for tomorrow. And tomorrow. And all the tomorrows after that.

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members of the colony in summer residence there were rolling along Ocean Avenue in horseless carriages. Two years later, *Vogue* took notice that "certain circles," as it called the select group to whom it looked for leadership, were sidestepping all the frenzy of rail travel, and journeying from place to place in their new cars. The King of the Belgians, who frequently shuttled back and forth between Paris and Brussels, was now making his trips in an automobile. Said *Vogue,* "Is it not a truly royal way of getting about . . .?"

In 1924, many of those who weren't rushing down to the travel agencies to exchange the bundle they had made on the stock market for tickets to Europe invested in a Model T ($260 for a roadster, f.o.b. Detroit) and were off to see the USA. The Model T was still a far cry from a T-bird. For one thing, it came only in black. Still, the car offered a chance to take off on a Sunday excursion, to roll out and see relatives who had felt themselves pretty well insulated from family intruders by distance.

Like all new gadgets, the car became a necessary symbol that established status. It was therefore quite a bit more than merely a mode of conveyance. In *Babbitt,* Sinclair Lewis described the status of the car:

"In the city of Zenith, in the barbarous Twentieth Century, a family's motor indicated its social rank as precisely as the grades of the peerage determined the rank of the English family. . . . There was no court to decide whether the second son of a Pierce-Arrow limousine should go in to dinner before the first son of a Buick roadster, but of their respective social importance there was no doubt; and where Babbitt as a boy had aspired to the Presidency, his son, Ted, aspired to a Packard Twin Six and an established position in the motored gentry."

A 1921 touring book gives the following instructions on driving: "A most important item is the towline—either hempen rope, chain or steelwire cable . . . tire chains should always be carried; likewise some single chains or mud hooks. There are also several automatic 'pull out' devices which enable one to drive through places that might otherwise be impassable . . . where mountain roads, sandy stretches and muddy places are to be met with, or where the condition of the road depends on the weather. . . . To some a compass may appear superfluous but the seasoned tourist commends it."

While the motorcar opened up the travel horizons of the American public, not every reaction to rising car sales was favorable. By 1920, religious and civic forces were calling cars "houses of prostitution on wheels." Joyriders drove down the road, playing their ukeleles and consuming by the pint liquids which "their radiators would have rejected." One stern moralist wrote, "Violation of the

Three horses have their work cut out for them, extricating this car from a mudhole. The picture was taken around 1920; the classy wire wheels were extras.

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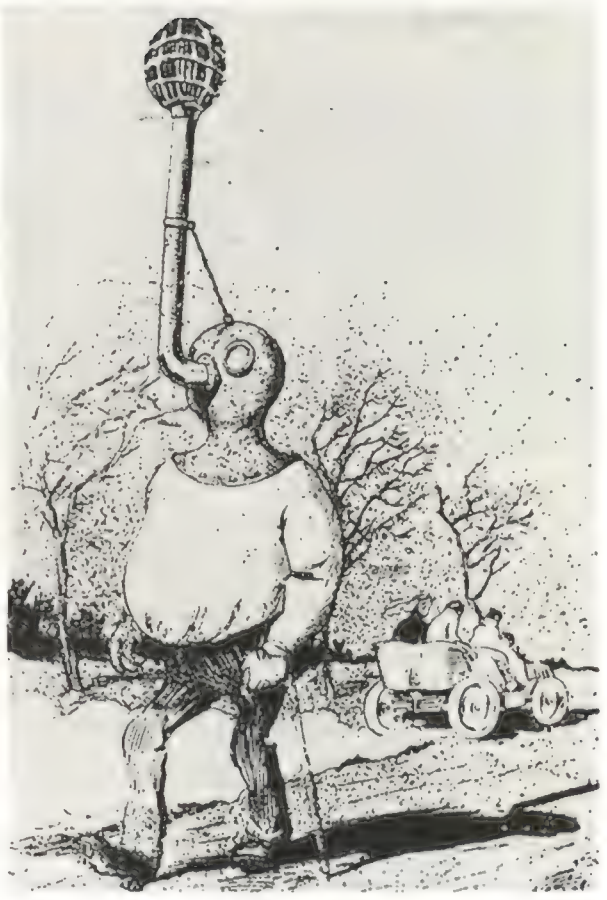

Cartoon shows 1904 environmentalist protected against exhaust pollution.

motor vehicle laws and the Eighteenth Amendment leads straight down Hell's highway to the roadhouse. The auto has put the front parlor on wheels and moved it beyond the city . . . and I don't know which is the horn of doom . . . the klaxon or the saxophone."

The nation, put on wheels by Ford and the rest of Detroit, forced the roads to widen, lengthen and harden. As the network of byways increased, the day excursions grew into overnight journeys. The automobile had given the traveler a new independence. He was at last free of schedules and itineraries. He no longer had to rush for trains and ships. He could leave when he wished and start when he wished. Once on the road, and reveling in his newfound freedom, he preferred to abide by no fixed itinerary. He wanted to eat when he was hungry and sleep when he was tired.

A new type of lodging, the overnight camp, appeared. They were clusters of six or seven cottages spread around a large community house. Each bungalow was furnished, in a style more Spartan than grand, with a bed, a chair and a washstand. But most were clean and airy, and as the sign on the road so invitingly said, you could turn in and get a night's sleep for a dollar.

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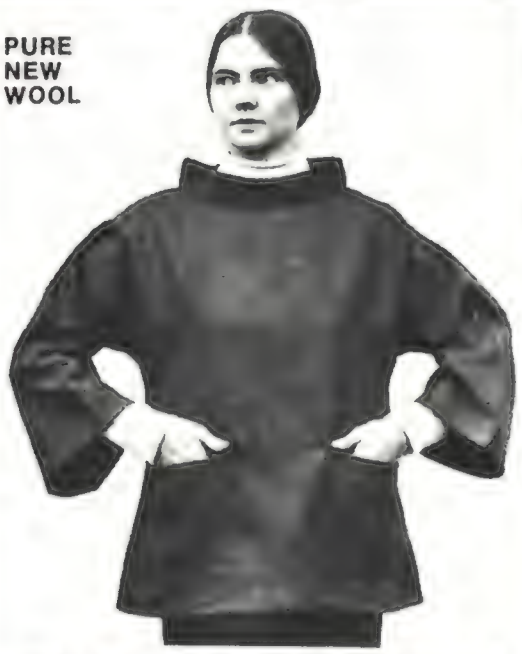

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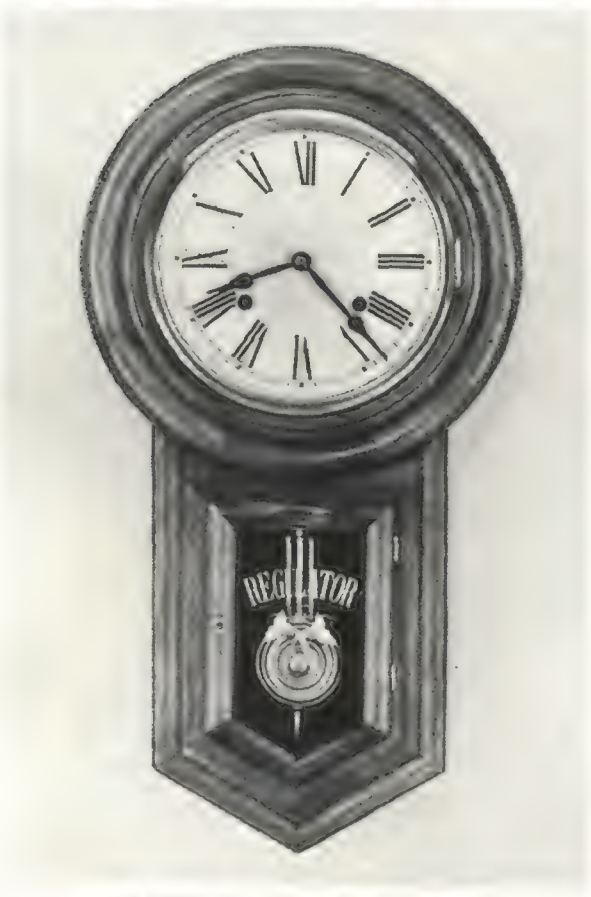

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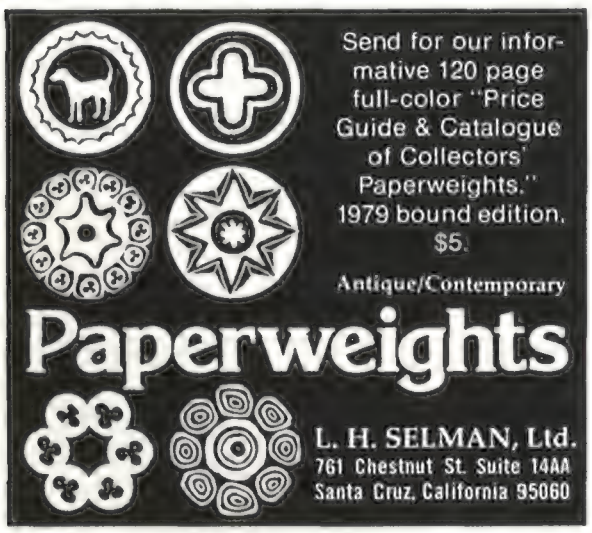
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Yellowstone Park thought its tenting arrangements were ideal, but it bowed to what it called the "bungalow hunters," and built a number of cabins. A novelty when it first appeared in the West in 1925, the bungalow camp, as it was often called, became a rage. In the Southwest they were often given a Spanish air, made of adobe or styled like pueblos. An early seer named Henry Burbans, in the employ of the Denver Tourist Bureau, predicted that one day there would be bungalow camps where the motorist could be assured of standardized rooms and rates. From the vantage point of late summer 1927, Mr. Burbans also forecast that the camps would eventually be equipped with laundry and valet service, a central garage capable of making repairs and a restaurant. A Chamber of Commerce noted that there were already 2,000 automobile tourist camps in the country, a new multimillion dollar industry.

With cars and motels came that other by-product, the trailer, which led to what is rather grandly known today as the motor home. The Chenango Trailer Company of Norwich, New York, offered the first manufactured commercial trailers around 1920, but most of the early trailers were homemade, utilizing car wheels and frames inexpensively available from most junkyards.

With cars came buses, the vehicles that signaled the eventual demise of the trolley car. During the decade from 1916 to 1926 about 2,500 miles of electric trolley track were abandoned in favor of bus service. Jitney services popped up everywhere and the industry spawned such lines as the White Swan, the Jack Rabbit, the Whippet, the Tiger and the Golden Eagle. In 1921, the first real intercity type of bus was manufactured. Several of these coaches were painted gray and looked so slim and trim that people began dubbing them "the Greyhounds."

Between the automobile and the bus, America was opened to the casual traveler. Before Detroit gave the country the car, vacationists chose the mountains or the shore, decided on a resort and then settled in for two weeks. A day's excursion, if one counted on a horse and buggy or, worse yet, a bicycle, was rarely farther than a few miles out of town. But now almost all the United States was available for exploration. By midwinter 1925 more than half the vacationists enroute to Florida went by car; in Southern California the figure was about 40 percent. The rush to See America First gathered a momentum that lasted deep into the 1920s and 1930s.

From California came the telling query popping up often in the magazines: "Icicles or roses . . . which do your children see at the windowpane?" In the summer the New England resort keepers invited stifling city dwellers to head north and "Sleep under a blanket every night." The Upper Peninsula of Michigan became known as Hiawatha Land (Minnesota had already staked out a claim to Minnehaha). Virginia adorned its battlefields with explanatory tablets. New England dusted off the lore of the Pilgrims. George Washington's overnight presence was advertised from New York to Virginia. The traveler who came by car renewed the country's interest in the romance of its history, and made it conscious of the beauty of its scenery. A lot of which, to be sure, the car was destined to help destroy.

In Hollywood five decades ago, a price war brought plenty of business to this filling station. Police were called to maintain order at long gas lines.

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H.L. Mencken filled his pages with some thoughts outrageous

For 50 years the 'Sage of Baltimore' shocked and amused compatriots with torrents of inflammatory prose

"Inhabiting These States today, George [Washington] would be ineligible for any office of honor or profit. The Senate would never dare confirm him; the President would not think of nominating him. He would be on trial in the newspapers for belonging to the Money Power. The Sherman Act would have him in its toils; he would be under indictment by every grand jury south of the Potomac; the Methodists of his native State would be denouncing him (he had a still at Mount Vernon) as a debaucher of youth, a recruiting officer for insane asylums, a poisoner of the home. And what a chance there would be for that ambitious young district attorney who thought to shadow him on his peregrinations—and grab him under the Mann Act!"

"Pater Patriae,"
Damn! A Book of Calumny, 1918

Enoch Pratt Free Library, Baltimore

Mencken was editing *American Mercury* in 1927 when Nikol Schattenstein posed him with habitual cigar. Suspenders were gift from actor Rudolph Valentino.

The man who wrote these words, Henry Louis Mencken, was born in Baltimore on September 12, 1880. A brilliant newspaperman, editor and social critic, his sardonic prose left an indelible mark upon the American language. The "Menckenisms" that flowed from his typewriter during the first half of the 20th century became, and remain, part of our common written and conversational currency.

This month, for the centennial celebration of Mencken's birth, Alfred A. Knopf, his long-time friend and publisher, will issue On Mencken, *selections from his writings combined with essays by authorities on his life and work. John Dorsey, himself a Baltimore newspaperman, writes in the introduction: "H. L. Mencken. . . . had that skepticism of men and their motives so necessary to this profession; and, as has often been said, he not only despised pretense, hypocrisy, and sham but was totally incapable of them himself. . . . Some journalists are good writers and some are good reporters, but it is hard to find both qualities combined in one person. Mencken claimed that he wasn't a good reporter. It's true that he wasn't 'objective,' but that only means he wasn't hypocritical enough to pretend to be."*

During the 76 years of his life, Mencken brought forth a vast body of opinion and comment—30-odd books, some 3,500 newspaper and magazine articles, 100,000 letters. To help mark his centenary, we have excerpted a few samples, some of which could have been written today—or tomorrow.

Every person, place and philosophy was fair game for Mencken's acerbic pen. Politics and politicians were his catnip;

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he rarely missed the quadrennial national conventions:

"For there is something about a national convention that makes it as fascinating as a revival or a hanging. It is vulgar, it is ugly, it is stupid, it is tedious, it is hard upon both the higher cerebral centers and the *gluteus maximus*, and yet it is somehow charming. One sits through long sessions wishing heartily that all the delegates and alternates were dead and in hell—and then suddenly there comes a show so gaudy and hilarious, so melodramatic and obscene, so unimaginably exhilarating and preposterous that one lives a gorgeous year in an hour."

Baltimore *Evening Sun*, July 14, 1924

In his own iconoclastic way, Mencken was a patriot:

". . . Life in the Republic has always seemed to me to be far more comic than serious. We live in a land of abounding quackeries, and if we do not learn how to laugh we succumb to the melancholy disease which afflicts the race of viewers-with-alarm. I have had too good a time of it in this world to go down that chute. I have witnessed, in my day, the discovery, enthronement and subsequent collapse of a vast army of uplifters and world-savers, and am firmly convinced that all of them were mountebanks. We produce such mountebanks in greater number than any other country, and they climb to heights seldom equalled elsewhere. Nevertheless, we survive, and not only survive but also flourish. . . . I do not believe in democracy, but I am perfectly willing to admit that it provides the only really amusing form of government ever endured by mankind."

Preface, *A Mencken Chrestomathy*, 1949

On the advantages of being thought affluent, Mencken had this to say:

"Perhaps the most valuable of all human possessions, next to an aloof and sniffish air, is the reputation of being well-to-do. Nothing else so neatly eases one's way through life. . . . Give out the news that one has just made a killing in the stock market, or robbed some confiding widow of her dower, or swindled the government in some patriotic enterprise, and at once one will discover that one's shabbiness is a charming eccentricity, and one's judgment of wines worth hearing, and one's political hallucinations worthy of attention. The man who is thought to

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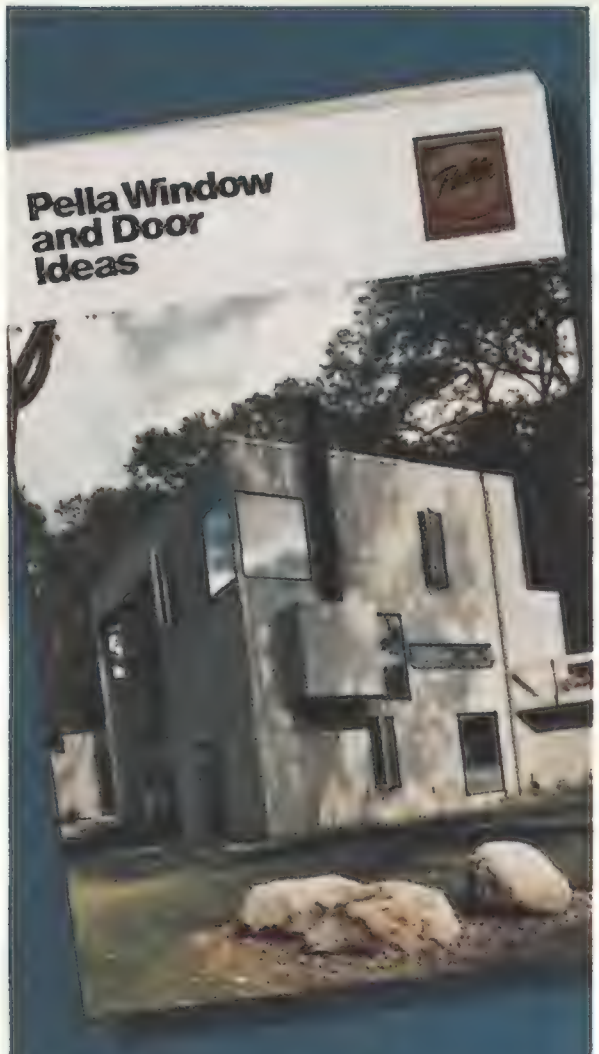

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be poor never gets a fair chance. No one wants to listen to him. No one gives a damn what he thinks or knows or feels. No one has any desire for his good opinion. I discovered this principle early in life, and have put it to use ever since. I have got a great deal more out of men (and women) by having the name of being a well-heeled fellow than I have ever got by being decent to them, or by dazzling them with my sagacity, or by hard industry, or by a personal beauty that is singular and ineffable."

"To Him That Hath,"
Smart Set, May 1920

He was a voracious reader and reviewer of other writers' books:

"As a book-worm I have got so used to lewd and lascivious books that I no longer notice them. They pour in from all directions. The most virtuous lady novelists write things that would have made a bartender blush to death two decades ago. If I open a new novel and find nothing about copulation in it, I suspect at once that it is simply a reprint of some forgotten novel of 1885, with a new name. When I began reviewing I used to send my review copies, after I had sweated through them, to the Y.M.C.A. By 1920 I was sending all discarded novels to a medical college."

"The Fruits of Comstockery,"
Prejudices: Fifth Series, 1926

Today's modern conveniences Mencken could take or, in most instances, leave:

"I am perhaps the first American ever to give up automobiling, formally and honestly. I sold my car so long ago as 1919, and have never regretted it. When I must move about in a city too large for comfortable walking I employ a taxicab, which is cheaper, safer and far less trouble than a private car. When I travel further I resort to the Pullman, by long odds the best conveyance yet invented by man. The radio, I admit, has potentialities, but they will remain in abeyance so long as the air is laden and debauched by jazz, idiotic harangues by frauds who do not know what they are talking about, and the horrible garglings of ninth-rate singers. The phonograph is just as bad, and the movie is ten times worse. [But] the inventor of the thermostat. . . . was one of the great benefactors of humanity. I wouldn't swap him for a dozen Marconis, a regiment of Bells, or a whole army corps of Edisons. Edison's life-work, like his garrulous and nonsensical talk, has been mainly a curse to humanity: he has greatly augmented its stock of damned nuisances. But the man who devised the thermostat . . . was a hero comparable to Shakespeare, Michelangelo or Beethoven."

"The Boons of Civilization,"
American Mercury, January 1931

Love for his native Baltimore was genuine, but not blind:

"Few things that stir the blood of man and lift him out of his wallow of lost hopes are permitted by the laws of Maryland. It is unlawful in Baltimore to throw confetti on New Years's Eve; it is unlawful, without elaborate permissive process, for a harpist to accompany flute music on the public street; it is a crime to sell chewing gum on Sunday, or to play tennis, or to have one's chin shaved, or to give a concert—or to go hawking! Fact! The Blue Laws were passed in 1723, and go back to the hell fire harangues of Cotton Mather, but every effort to mitigate and modernize them is opposed with truly savage violence. Under them, the

Stylish *Smart Set* promoted major 1920s writers such as F. Scott Fitzgerald.

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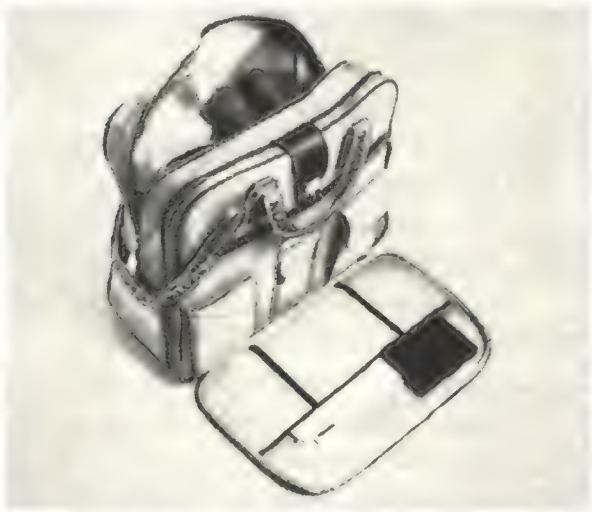

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Simply, there's no other piece of luggage anything like this. Beautifully made of top-quality cellulose rayon, the material that's most often used in expensive luggage today because it's as strong as it is light, and will retain its beauty through years of use and abuse, the Kluge Bag is available in natural canvas color with rich brown piping and in striking solid black diamond and brown trim.

Outside there are three sectional zippers, so you can get to anything in a second, with security snap locks and an over-all snap lock safety strap, plus comfortable carrying handles and the adjustable burden-bearing shoulder strap.

Inside, a fold-up rigid bottom supports everything you can carry in the zippered main compartment. The fittings and details are equally impressive, like a tie rack, a fitted compartment for toiletries, a zippered compartment for valuables, pockets for cards, notes, keys and more. Plus a huge volume portfolio. Everything you need to make packing and traveling for days or weeks easier and faster than it's ever been before. Yet fully packed the Kluge Bag is just 18" high by 23" long and 12" deep.

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Celebrating Prohibition's end in 1933, Mencken downed first legal beer served in his favorite Baltimore hotel, above. At left, spoof of his many robust appetites.

impresario who had an orchestra play the nine symphonies of Beethoven on nine successive Sunday afternoons would be liable to a minimum fine of $25,550 and 220 days in jail.

"Remember, I said 'minimum.' The maximum would be $127,600 and fifteen months. . . ."

"Good Old Baltimore,"
Smart Set, May 1913

Mencken was a master of the epigram, which he defined as "a platitude with vine leaves in its hair." He compiled his definitions into a mock dictionary:

BREVITY. The quality that makes cigarettes, speeches, love affairs and ocean voyages bearable.

CELEBRITY. One who is known to many persons he is glad he doesn't know.

CONSCIENCE. The inner voice which warns us that someone is looking.

IDEALIST. One who, on noticing that a rose smells better than a cabbage, concludes that it will also make better soup.

LOVE-AT-FIRST-SIGHT. A labor-saving device.

PROHIBITIONIST. The sort of man one wouldn't care to drink with, even if he drank.

SELF-RESPECT. The secure feeling that no one, as yet, is suspicious.

TEMPTATION. An irresistible force at work on a movable body.

YACHT CLUB. An asylum for landsmen who would rather die of drink than be seasick.

"The Jazz Webster,"
A Book of Burlesques, 1916

His free-swinging epigrams embraced all subjects with genial cynicism:

"The chief argument against prohibition is that it doesn't prohibit. This is also the chief argument in favor of it."

"The objection to Puritans is not that they try to make us think as they do, but that they try to make us do as they think."

"It is a sin to believe evil of others, but it is seldom a mistake."

"Since Shakespeare's day more than a thousand different actors have played Hamlet. No wonder he is crazy!"

A Little Book in C Major, 1916

The foibles of men and women in—or out of—love held Mencken's constant, amused attention:

"The allurement that women hold out to men is precisely the allurement that Cape Hatteras holds out to sailors: they are enormously dangerous and hence enormously fascinating. To the average man, doomed to some banal drudgery all

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We hope you will join with us in offering a needy child a better life. Because even sadder than their need is our knowledge that we *could* help. If . . .

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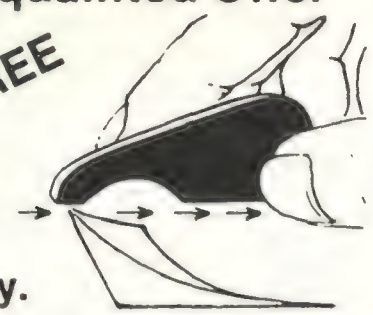

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his life long, they offer the only grand hazard that he ever encounters. Take them away and his existence would be as flat and secure as that of a moo-cow. Even to the unusual man, the adventurous man, the imaginative and romantic man, they offer the adventure of adventures. Civilization tends to dilute and cheapen all other hazards. Even war has been largely reduced to caution and calculation; already, indeed, it employs almost as many press-agents, letter-openers and generals as soldiers. But the duel of sex continues to be fought in the Berserker manner. Whoso approaches women still faces the immemorial dangers. Civilization has not made them a bit more safe than they were in Solomon's time; they are still inordinately menacing, and hence inordinately provocative, and hence inordinately charming."

"The Incomparable Buzz Saw,"
Smart Set, May 1919

In 1918, Mencken wrote In Defense of Women, *a satire which irritated the suffragettes and would likely anger their feminist granddaughters. Anticipating the ire, Mencken made this confession:*

"There is no book on women by a man, at least in the English language, that is not a stupendous compendium of posturings and imbecilities."

This is how he defended the fair sex:

". . . The average American woman, whatever her deficiencies, is greatly superior to the average American man. The very ease with which she defies and hornswoggles him in several capital situations of life is the clearest of proofs of her general superiority. She did not obtain her present high immunities at the domestic hearth as a gift from the gods, but only after a long and often bitter fight, and in that fight she exhibited forensic and tactical talents of a truly admirable order. There was no weakness of man that she did not penetrate and take advantage of. There was no trick that she did not put to effective use. There was no device so bold and inordinate that it daunted her."

"To be the wife of an ordinary man, indeed, is an experience that must be very hard to bear. . . . and one sometimes wonders that so few women, with the thing so facile and so safe, poison their husbands. Perhaps it is not quite as rare as vital statistics make it out: the death-rate

Mencken married Sara Haardt in 1930 and was devastated when she died in 1935.

among husbands is very much higher than among wives. More than once, indeed, I have gone to the funeral of an acquaintance who died suddenly, and observed a curious glitter in the eyes of the inconsolable widow."

Mencken's social forecasts could be both unpopular and unerring:

"Once women have the political power to obtain their just rights, they will begin to lose their old power to obtain special privileges by sentimental appeals. Men, facing them squarely, will consider them anew, not as romantic political and social invalids, to be coddled and caressed, but as free competitors in a harsh world. When that reconsideration gets under way there will be a general overhauling of the relations between the sexes, and some of the fair ones, I suspect, will begin to wonder why they didn't let well enough alone."

In Defense of Women, 1918

He proclaimed that "A man who can laugh, if only at himself, is never really miserable"—and then laughed:

"The physical business of writing is extremely unpleasant to me, as it is to most other human beings, but the psychic satisfaction of discharging bad ideas in worse English is enough to make me forget it entirely."

Minority Report: H. L. Mencken's Notebooks, 1956

In 1927, three years before his marriage at age 50, Mencken catalogued his tastes and opinions in a letter to artist and poet Charles Shaw:

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Above, Gene Markey drew a fuming Mencken "trying to think of more things that annoy him" in 1923. The cigar projecting from the corner of his mouth, right, became a familiar trademark.

"1. I bought some brown shoes six or eight years ago, and have worn them off and on ever since. I have also taken to brown oxfords.

2. I have now seen about twelve movies, four or five of them to the end. I liked them all pretty well, but am not tempted to go back.

3. My favorite drinks, in order, are: beer in any form, Moselle, Burgundy, Chianti, gin and ginger-beer, and rye whiskey. I use Swedish punch only as a cocktail flavor. I dislike Rhine wine, save the very best. I never have a headache from drink. It fetches me by giving me pains in the legs. When I get stewed I go to sleep, even in the presence of women and clergymen.

4. Curiously enough, I greatly dislike the common American dirty stories, and avoid the men who tell them habitually. They seem dull to me. I love the obscene, but it must have wit in it. . . .

10. I believe in marriage, and have whooped it up for years. I [think] it is the best solution, not only of the sex question, but also of the living question. I mean for the normal man. My own life has been too irregular for it: I have been too much engrossed in other things. . . . If I ever marry, it will be on a sudden impulse, as a man shoots himself. I'll regret it bitterly for about a month, and then settle down contentedly.

11. I believe in and advocate monogamy. Adultery is hitting below the belt. If I ever married the very fact that the woman was my wife would be sufficient to convince me that she was superior to all other women. My vanity is excessive. Wherever I sit is the head of the table. This fact makes me careless of ordinary politeness. I don't like to be made much of. Such things please only persons who are doubtful about their positions. I was sure of mine, such as it is, at the age of 12. . . .

15. I can't get rid of certain superstitions, and suspect that there must be some logical basis for them. My mother and father both died on the 13th. . . .

17. I have another superstition: that all men who try to injure me die. . . . Of the six bitterest enemies I had two years ago, five are dead, all suddenly. . . .

20. I believe the United States will blow up within a century. . . .

24. Most people regard me as very energetic. I am actually very lazy, and never work when I don't want to. On most days I take a nap. . . .

25. I drink exactly as much as I want, and one drink more. . . .

28. I dislike receiving presents, and never accept them if I can get out of it. But I like giving them to women and children. . . .

29. My apologies for inflicting so long a letter upon you."

Charles Shaw Papers
Archives of American Art
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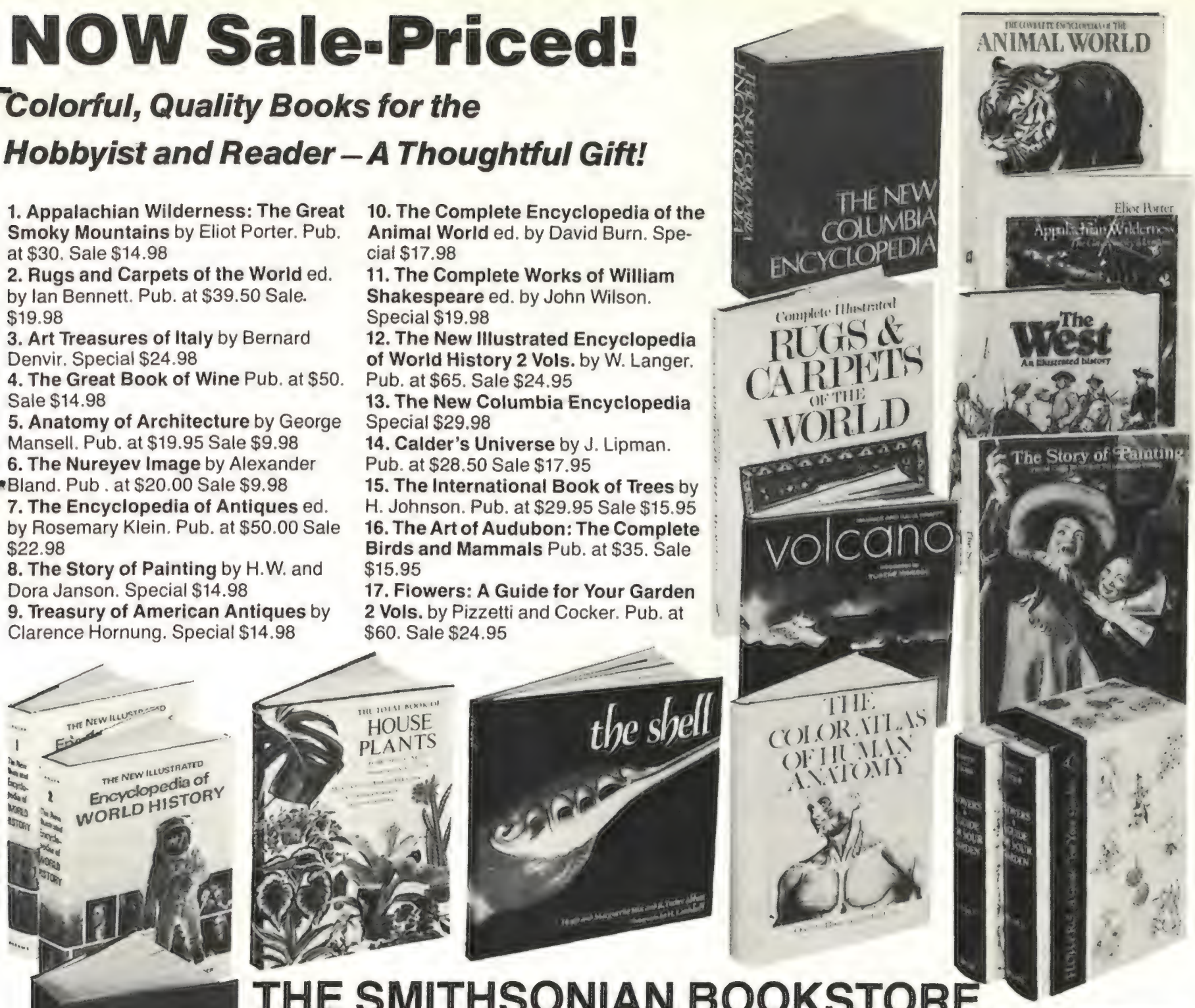
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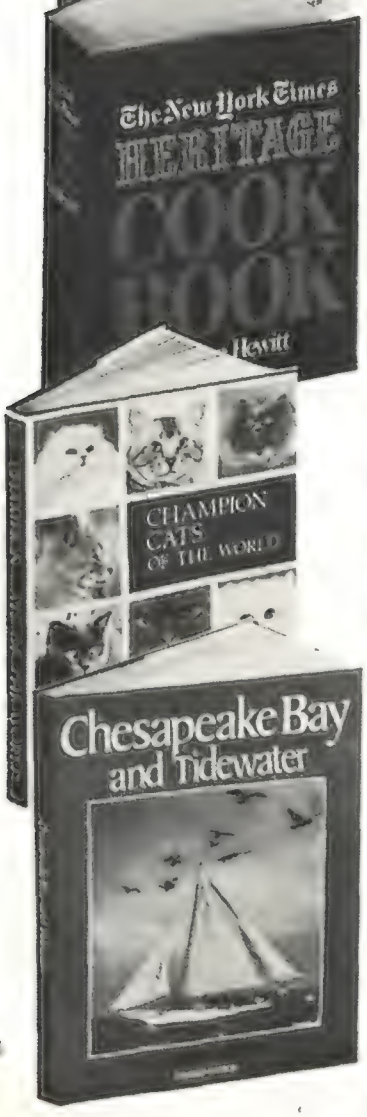

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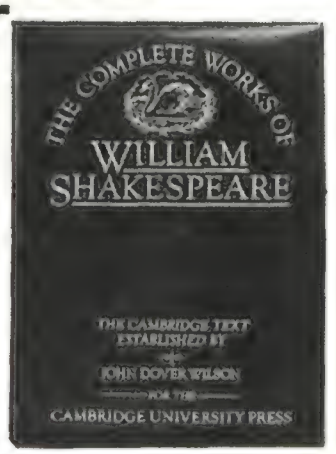
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In an autobiography, Mencken recalled a $7.50 printing press and how his career had been launched at age seven:

"Other Christmas presents came and went, but there was never another that fetched and floored me like Dorman's Baltimore No. 10 Self-Inker Printing Press. The box of water-colors that set me to painting I have mentioned, and I have also alluded to the camera that aroused in me a passion for photography, and then, by way of developers and toning solutions, for chemistry. But my career as a water-colorist was brief and not glorious, and the camera came after the period covered by this history. I recall a year when some one gave me a microscope, but it, too, held me only transiently, for one of the first things I inspected through it was a drop of vinegar, and the revolting mass of worms that I saw kept me off vinegar for a year afterward, and cured me of microscopy. . . . I was favored with a box of carpenter's tools, but . . . the saw would not saw, the plane would not plane, the hammer smashed my thumb, and the chisel cut my hand. Nor was I greatly interested in the steam-engine that appeared at Christmas 1889. . . . It was the printing press that left its marks, not only upon my hands, face and clothing, but also on my psyche. They are still there, though more than fifty years have come and gone."

Happy Days, 1940

In failing health, H.L. Mencken attended his final political convention in 1948.

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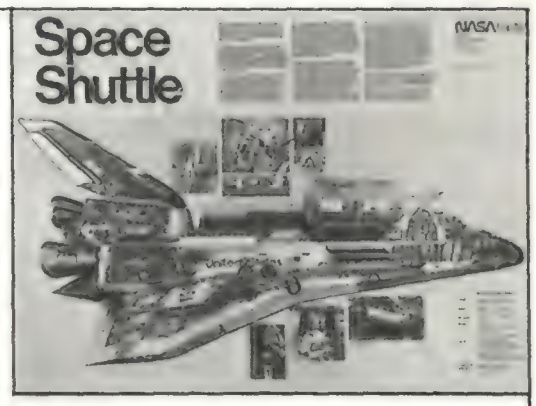

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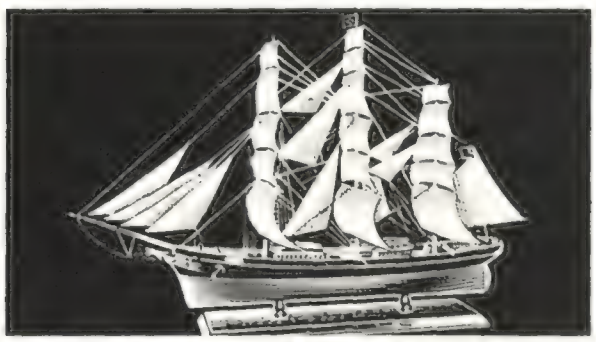

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Book reviews

Imagining America
Peter Conrad
(Oxford University Press, $12.95)

America is a Tower of Babel and a sea of variety; it takes an intrepid traveler to translate its messages while keeping afloat in its crosscurrents. Oxford scholar Peter Conrad has found just the candidates, however: a company of British excursionists, some of whom were simply inquisitive sightseers or self-dramatizing entrepreneurs, others who came to stay.

The writers examined are Anthony Trollope, Charles Dickens, Oscar Wilde, Rupert Brooke, Rudyard Kipling, Robert Louis Stevenson, H. G. Wells, D. H. Lawrence, Aldous Huxley, W. H. Auden and Christopher Isherwood. There is one lady, the indefatigable and crabby Fanny Trollope. Sarah Bernhardt makes a guest appearance, posing in front of that obligatory tourist attraction, Niagara Falls.

Visitors tended, of course, to notice contrasts between Europe and America first. Europe was centered, old, introverted, tidy and socially complex. America had no center; it sprawled—for better or for worse; reflected chaos; had an unformed, unfinished, primitive quality or a cold and materialistic technological veneer. As for society, there wasn't any. These various attributes take on positive or negative qualities, depending upon the historical point at which one enters Conrad's narrative. For ideas changed over time, especially as the prudish or pessimistic opinions of the Victorians gave way to the more enthusiastic or daring tastes of their successors.

But the most telling contrasts in Conrad's study are less European-American dichotomies than differing views from one writer to the next. The divergences reveal as much about these figures as artists (and about their oeuvres) as it does about the material and ground they covered. Wells swooned at the feet of technocracy; Lawrence abhorred it. Auden seemed to age visibly in the grimy, claustrophobic New York he inhabited, while Isherwood found infinite mystical bliss and eternal youth in sunny California. Coming to America could entail a choice of life, or it could glorify death. Conrad's Rupert Brooke saw in the esthetic meaninglessness of Niagara Falls a mirror image of his own suicidal instincts. America was an endurance test in quests for distant lady loves, but it promised its share of boy loves as well—it became a great homoerotic outpost in the British Empire of life and letters. For D. H. Lawrence the cacti of the American desert rose up as phallic symbols, but to Aldous Huxley they supplied magic substances to be used for his drugged misperceptions of American realities.

Not that reality mattered. Conrad's point is that America is an imaginative construct, an idea made to correspond to each person's unique powers of invention. Possession of America was a mental act, the voyagers were voyeurs. Sometimes this stemmed from having rigid preconceptions, sometimes it flowed spontaneously. But seeking out America, experiencing it, dissecting it, analyzing it, each explorer was discovering himself. Ironically, this apotheosis of individuality occurred in a country, in a society, which most of these observers seemed to think lacked individuality. They were concerned with America, not Americans.

America as perception, as creative jog, translates into the issue of literary form. According to Conrad, the meaning of America is its value as inspiration for different types of literary genre. The traditional novel form seemed an inappropriate means of expression for the new land, and the visiting writers opted variously for epic (the "image of industrial process"), chivalric romance, totemic meditation or science fiction. These alternatives added fuel to the debate over whether America represented past or future.

There is much of a good guy-bad guy pattern to Conrad's analyses. If he approves of one writer's mentality, he is sure to balance it with the shortcomings or misreadings of another. His book is

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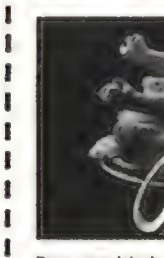

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a model of research, integration and original interpretation. Like travelers traversing a continent without forgetting where they came from or where they are going, different items in his discussion refer back and forth to each other, but are not repetitious. *Imagining America* is a heady expedition.

—Celia Betsky
Commentator, National Public Radio

Secret Go the Wolves
R. D. Lawrence
(Holt, Rinehart and Winston, $10.95)

An experienced woodsman on a canoe trip in the Ontario wilderness acquires two infant, orphaned wolves whose survival chances are doubtful. He brings them home and embarks on a rare adventure: the raising of these wild animals in such a way that they can ultimately be released safely to independent life.

Such an undertaking involves not only allowing their instinctual equipment to develop and to be tuned up to top working order. It also means a great deal of teaching on the part of their foster parent, R. D. Lawrence.

But won't a wild animal such as a wolf just automatically know what to do for its own survival when set free in its natural habitat? The answer is no. Life for a wolf is serious business, dependent on fine skills that are taught by the parents and others of the wolf society, or on the incredibly complex interaction of learning plus instinct. The animal simply won't make it on instinct alone.

Can a human being provide this instruction? Can a person substitute for a wolf parent? Apparently yes, if that person has the knowledge of wild animals, a suitable life-style, and above all patience and commitment.

Lawrence's minutely detailed story of little female Matta and male Wa (named for the Mattawa River, on whose shores he bargained with an Indian for their lives) is fascinating, enjoyable and totally believable. All writers about animals have to walk a fine line to avoid the accusing word that seems so ready on the lips of skeptical readers: anthropomorphism. Lawrence deals with it head-on: "It is no coincidence that many people recognize extensions of themselves in the behavior and personalities of their pets and other animals. . . . We are, after all, so *animal*."

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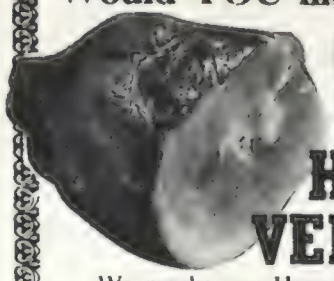

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If anything, Lawrence leans over backward. He decides that he, his wife Joan, their massive exuberant malamute Tundra, and Matta and Wa comprise what he calls the North Star Pack. He assumes that he himself is of course the leader, the alpha male. He even communicates with the wolves by whoofs and growls. Tundra is beta male, and when Wa beats up Matta in a dominance fight, Wa takes third place. But where does that leave Joan? Out in left field, apparently, in what Lawrence calls "a rather unusual position"—yet equal to all, he says.

Lawrence's affectionate but nevertheless subtly patronizing attitude toward his wife is the only real flaw in an otherwise perfect book. The personality of Joan as perceived by her husband may be problematical for some readers of *Secret Go the Wolves*. Joan's eyes are forever filling with tears, from the moment she first sees the helpless cubs until the morning when she bids the grown wolves good-bye for the last time. When Wa returns from a hunting trip and regurgitates his kill—a load of gory, partly digested meat—into her lap as a show of love, she weeps. When Lawrence recounts to her how he saw Matta and Wa chase a deer to exhaustion and then slay it, she weeps. (Whether Joan is saddened by the agony of the deer or the fact that her two "darlings" are now grown-up killers is not made clear to the reader.) Yet, Joan snowshoes in sub-zero temperatures, drives the tractor, and works like a Trojan at maple sugaring time.

Lawrence's descriptions of the changing seasons and the wild countryside are truly lyrical. He writes with the fastidious, formal grace of a 19th-century man of letters. Early spring on his farm: "Among these seedlings showed patches of stubborn snow, melting reluctantly and making small tinkling sounds as the massed ice crystals compacted and shifted, spasmodic music that complemented the husky song of small golden bees that flitted through the air in quest of honeydew."

Yet perhaps he is at his best when describing the behavior of the wolves and other animals: "Matta was about to go see what her brother was doing when a red squirrel burst hurriedly out of a mass of deadfall branches. It had evidently been caught in the open and had sought temporary shelter under the downed spruce, coming out when Matta's atten-

tion veered toward Wa. The redback streaked for a nearby tree with Matta hot in pursuit; for a few seconds it was touch-and-go, but the squirrel got to the tree, scurried around its bole, and ran nimbly up the trunk to the safety of one of the topmost branches. There it sat and cursed us all."

At one point, Lawrence asks: "I have long concluded that humans, for all their marvelous reason and inventiveness, long ago lost contact with the real world. . . . We are very clever. But what do we *really* know of ourselves and of the world to which we belong, the ambient so readily perceived by the so-called lesser animals?" As each chapter unfolds, we are indeed engagingly led to learn more about the world to which we belong and its so-called lesser creatures.

—*Patricia Curtis*
Writer on animal life

The Face of Lincoln
Compiled and edited by James Mellon
(Viking Press, $75)

All of us have a hundred different faces, and we confidently expect our friends to decipher them, not to look too hard at the less attractive ones and yet still to appreciate every nuance of the good ones. The sad thing about a photograph is that it captures only one face. Most of us will be remembered by a few snapshots showing nothing more than our most public mask, grinning and vacuous.

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He had gray eyes, did you know? His hands were big, but articulate, and we see them here, at rest or self-consciously holding some document or being gazed down upon in someone's idea of a statesman-like pose. He likes to stick his watch chain in the top buttonhole of his vest, and we see it there, year after year, a tiny trademark, endearing in its familiarity.

His hair becomes an old friend too, the

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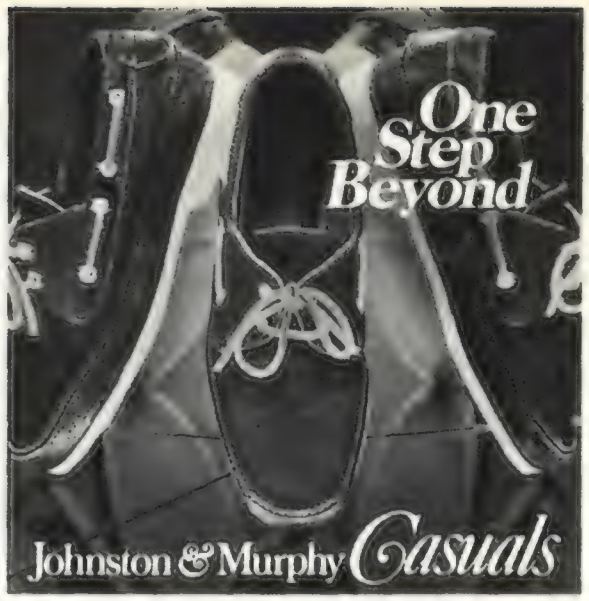

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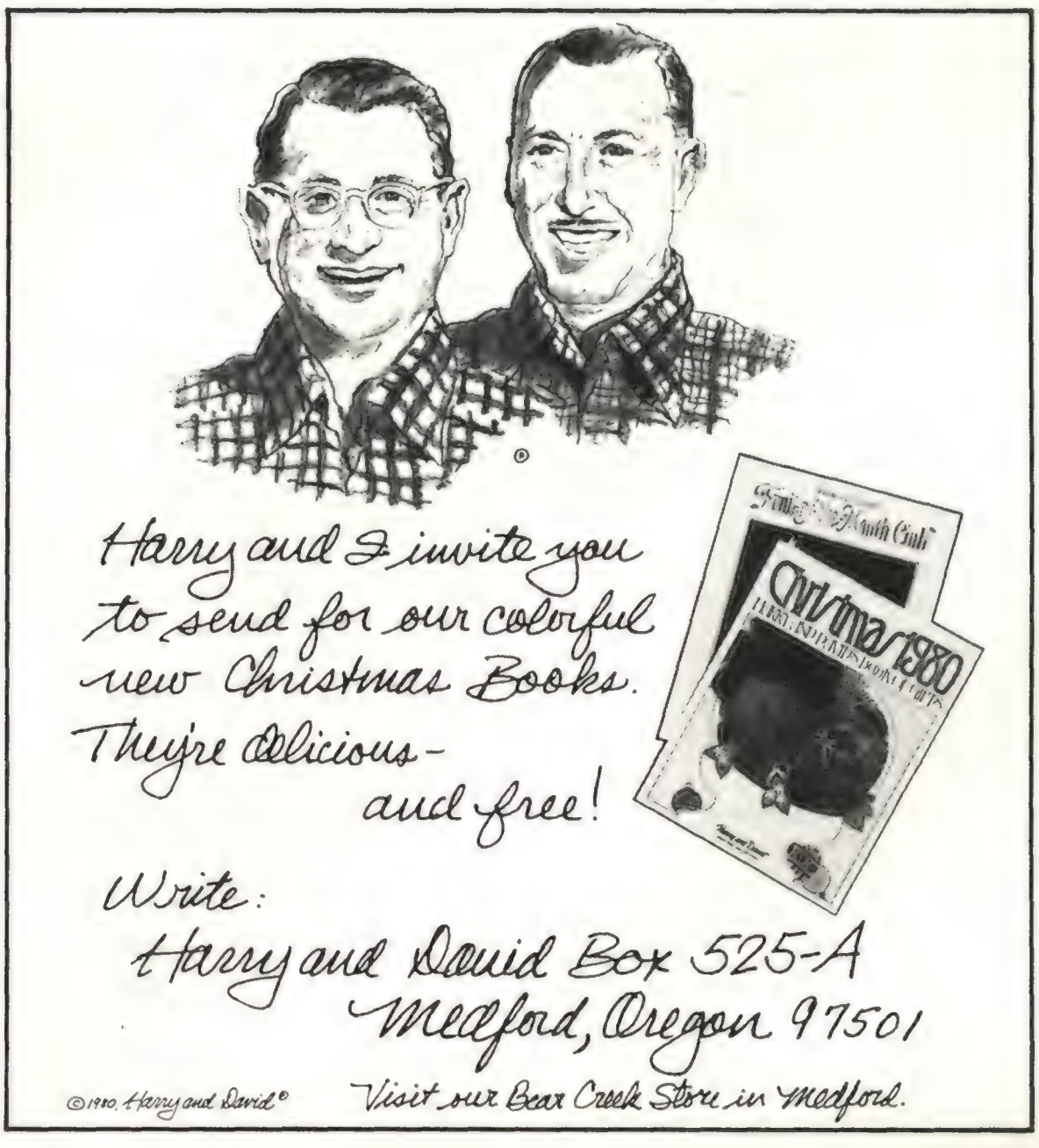
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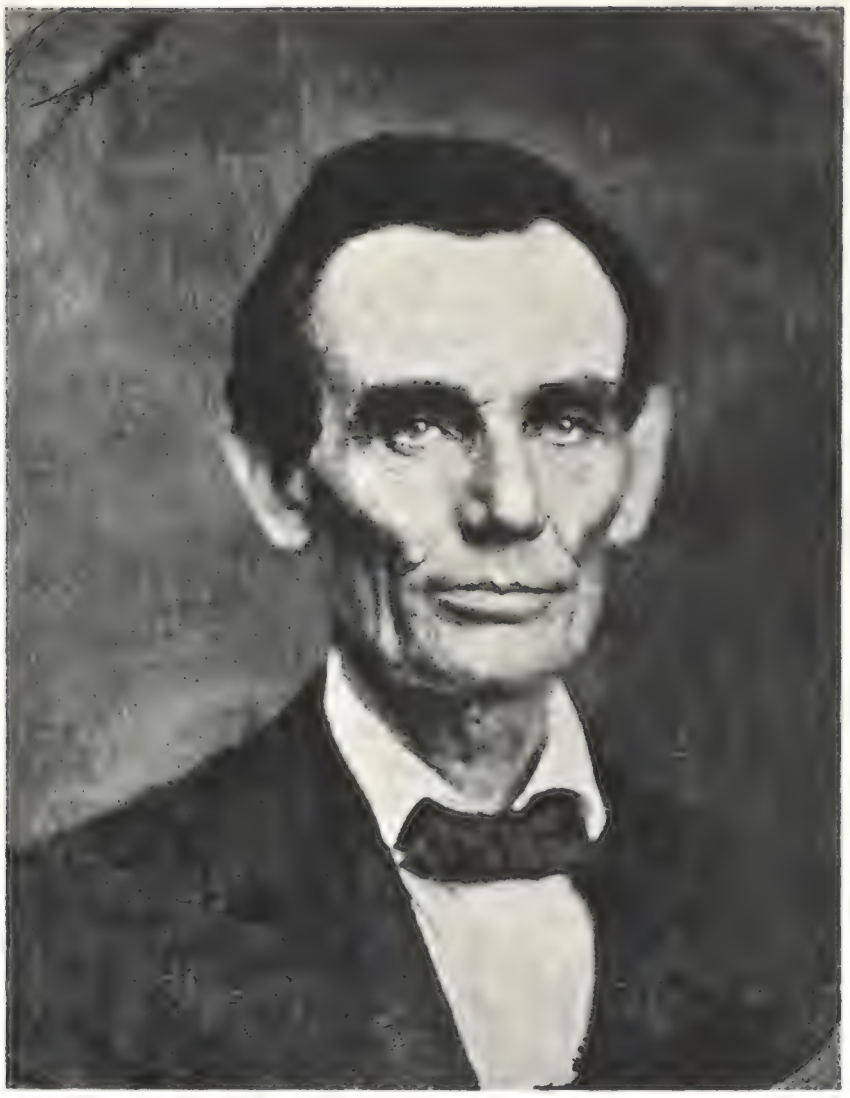

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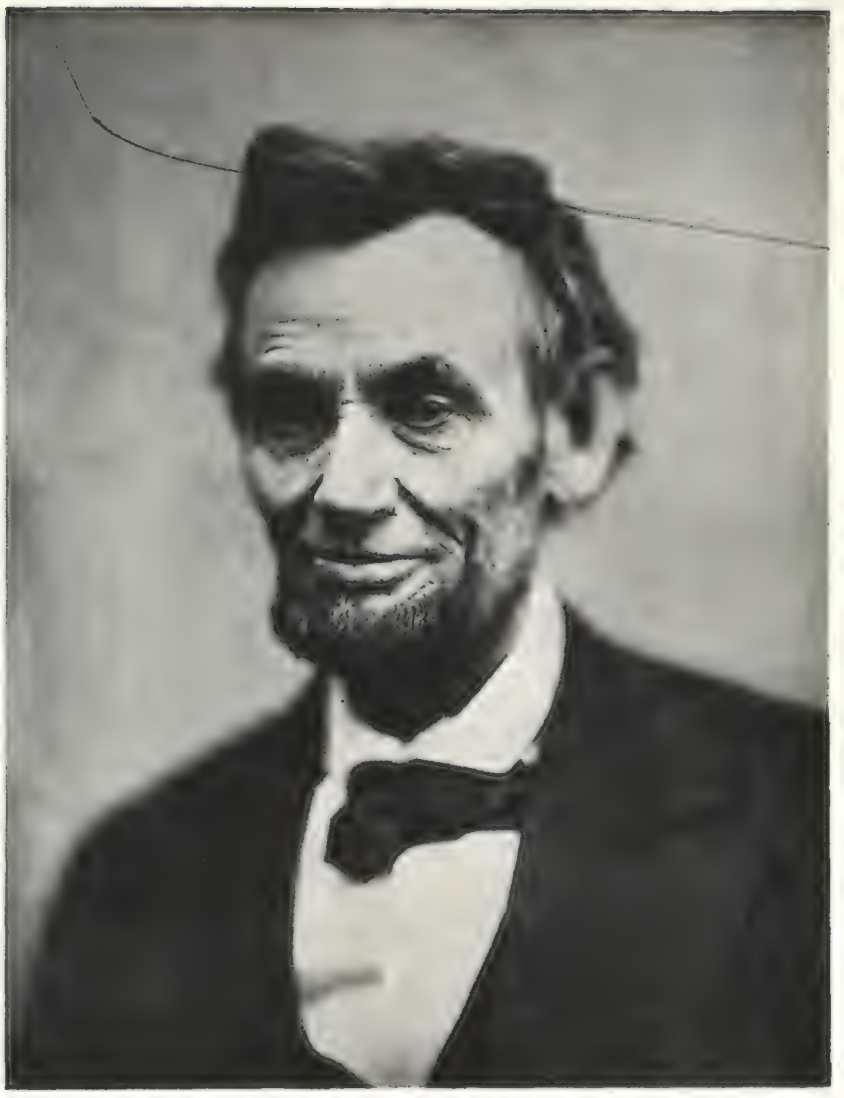

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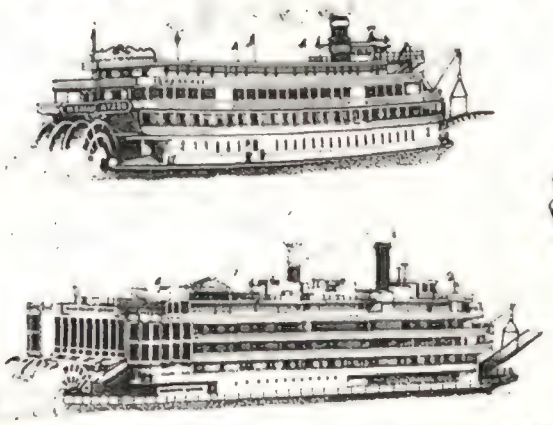

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"wild republican hair" that he combed with his fingers for one celebrated portrait. He used to say his hair had "a way of getting up as far as possible in the world." We see something else in that picture, made when he was 48, a portrait scorned by his wife but judged "a very true one" by himself: a country face, big-featured and slow, a face one might have found at the feed store or the barn raising, a face that could only be American.

The very next page gives us a completely different person, you would say 20 years older—harder, surer, wiser. It was taken, at most, 15 months later.

His voice changed too. From a letter by his law partner, William Herndon:

"Lincoln's voice was, when he first began speaking, shrill—squeaking—piping—unpleasant. . . . He used his head a great deal in speaking, throwing or jerking or moving it now here and now there . . . sometimes shooting out that long bony forefinger of his to dot an idea or to enforce a thought, resting his thumb on his middle finger."

As he warmed up, the piping voice "became harmonious, melodious, musical. . . . When Mr. Lincoln rose up to speak, he rose slowly, steadily, firmly; he never moved much about on the platform when speaking, touching no desk, table, railing; he ran his eyes slowly over the crowd, giving them time to be at ease and to completely recover himself. . . ."

There are other priceless insights like this in the text, urgently bringing the man to life in our minds. A constituent writes about meeting Lincoln on a train in 1860, just after the nomination. They talk. Lincoln remembers the admirer, though he was just a face in the crowd. Then they discuss the word "demonstrate," which Lincoln came across in his law reading. He had wanted to know how it differed from "prove." The dictionaries were no help. Lincoln speaks:

"At last I said, 'Lincoln, you can never make a lawyer if you do not understand what *demonstrate* means'; and I left my situation in Springfield, went home to my father's house, and stayed there till I could give any proposition in the six books of Euclid at sight. I then found out what demonstrate means, and went back to my law studies."

Time and again, the text selections conjure up this living person: laughing, eating, gently reprimanding one incompetent general and slashing satirically at

another, stating a hard position—always, always, revealing himself.

"I laugh because I must not weep—that's all, that's all!" he once said sadly.
—*Michael Kernan*
Washington Post writer

Mr. Peale's Museum: Charles Willson Peale and the First Popular Museum of Natural Science and Art
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(W. W. Norton & Company, $14.95)

For more than fifty years, Peale's Museum was a Philadelphia landmark, but its founder's dream of a national institution for art and science extended far beyond the city. Ultimately, Peale's Museum failed; its collections were dispersed and its influence ceased, "like a book, once enjoyed by thousands, but of which only a few tattered leaves remain."

Peale's vision, however, of a public institution serving a broad educational function through collections, exhibitions, lectures, publications and research persisted and came to a rich and permanent flowering in New York's American Museum of Natural History and Washington's Smithsonian Institution. The story of Peale's Museum, from Charles Willson Peale's initial conception of it in 1784 to the final demise of its portrait gallery in 1854, is a dramatic one. In its rise and fall we see the movement of the times, away from the idealism of the 18th-century Enlightenment and toward the rise of commercialism and specialization, both of which denied the fundamental principles behind Peale's great effort.

Peale's Museum began with a collection of gigantic bones and a preserved paddlefish. Both represented scientific interests of his day. The bones suggested the great mystery of the age: "what races of enormous beasts or people had once roamed the forests of America, or might still be prowling through the shadows of its farthest wilderness."

The paddlefish appeared as a link in the great chain of being, a demonstration of the infinite variety of creation in an eternally durable universe. Accepting the idea of an orderly world, Peale believed that all he had to do was search for "missing links." Once they were found, his task was to organize and classify his specimens in Linnaean order so that their place in the chain would be realized.

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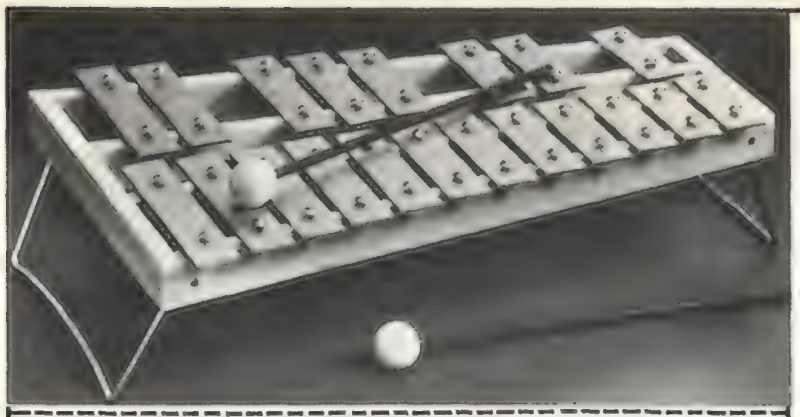

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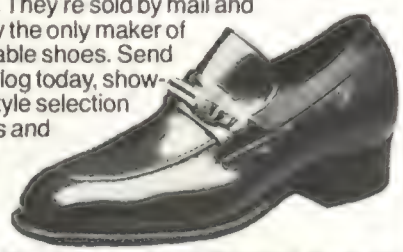

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naturalist in Peale united: specimens required preservation and painted backgrounds that would make them both scientifically true and interesting to the public. His portraits also played a part: as representative of the highest species in the great chain, they hung in their allotted place above the birds.

Peale's belief in the educational efficacy of his institution was boundless. Throughout his life, he fought to keep it popular without succumbing to the temptation to admit profitable entertainments of doubtful intellectual value. His success, as Jefferson noted, was "owing to a measure of zeal and perseverence . . . rarely equaled, [and] to a population, crowded, wealthy, and more than usually addicted to the pursuit of knowledge." But by the next generation, that addiction to knowledge had weakened, or had isolated itself in specialized scientific institutions established and maintained by professional savants.

Founded too early to benefit from a changed view of government's responsibility to support a museum for public education, the Peale museum never received the assistance from government—either local or national—that it required if it were to expand into the kind of institution its founder had conceived. When Peale incorporated the enterprise in 1821, hoping to solicit greater public support, he inadvertently gave it a business character that also contributed to its eventual demise.

The late Dr. Sellers has told the museum's story well. Even the narrative of accessions and collections, which might have become a tedious piling up of detail, under his sympathetic pen has become a fascinating revelation of America's changing tastes. The museum itself is a kind of hero as we watch its course to greatness and extinction—and eventual resuscitation, as an idea, in the modern museums to which it was a most worthy predecessor.

Lillian B. Miller
National Portrait Gallery

A Few Great Captains
DeWitt S. Copp
(Doubleday, $17.50)

Many years ago I struck a feeble blow for democracy as a member of the U.S. Army Air Corps, later called the Army Air

Forces. As one of its people I was aware of—and enthusiastic about—a possible future change in status for my organization. We might soon come out from under the bureaucratic aegis of the Army and achieve a new and independent bureaucratic entity of our own. Instead of calling ourselves the AAF, we would perhaps become the USAF.

World War II ended, and I bugged out, shedding my uniform without a thought for whether it was olive drab or slate blue. *A Few Great Captains,* the story of the gradual development of a separate American air force, brings those old days back to mind. DeWitt S. Copp (who was in the old Army Air Forces at the same time I was), with the help of the Air Force Historical Foundation, tells the story well through the men who worked very hard to get what they felt the country needed. Billy Mitchell was one of the captains, of course, but he was not nearly as effective as other officers who played the Army and Congressional game, staying in the service, struggling always to gain independent action for the air branch.

The stayers and strugglers were many, but Copp goes into most detail on five: Hap Arnold, Frank Andrews, Benny Foulois, Ira Eaker and Tooey Spaatz. They were all daring pilots, remarkably unconcerned with military pettiness.

They flew dangerous old planes; they cracked up; they broke legs; they drank all night; they always kept the pressure on Congress to wangle for them every gram of autonomy they could manage.

Separateness came in small steps, but it came. And reading the book—a splendid book, by the way, with some great old photographs—one sees that there really weren't many villains on the side of bureaucracy and there really wasn't much swashbuckling by the great captains. World events made the argument for a strong air force unbeatable. Even MacArthur was for it.

And so we entered World War II, separate in all but fact, and the book—the first of two volumes—ends on that note. And I, perversely, now look back on that faint Army connection with a germ of pride that grows as the years pass. I was, I say with a hint of nostalgia, a member of the "Brown Shoe Air Force," the old name that distinguishes us Army types from the men in blue.

Edwards Park
Board of Editors, author of *Nanette*

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Additional reading

Year of the Coast (p. 46)

A Weekend in September by John Edward Weems, Texas A & M University Press (College Station), 1980

"Barrier Islands" by Robert Dolan, Bruce Hayden and Harry Lins, *American Scientist,* January/February 1980

The Beaches Are Moving by Wallace Kaufman and Orrin Pilkey, Anchor Press/Doubleday, 1979

Barrier Island Handbook by Stephen P. Leatherman, University of Massachusetts (Amherst), 1979

Waves and Beaches by Willard Bascom, Anchor Press/Doubleday, 1973

The Vikings (p. 60)

The Viking World by James Graham Campbell, Weidenfeld and Nicolson (London), 1980

The Northern World, edited by David M. Wilson, Thames and Hudson, 1980

The Vikings and Their Origins by David M. Wilson, Thames and Hudson and McGraw-Hill, 1970

The Viking Achievement by P. G. Foote and David M. Wilson, Praeger, 1970

A History of the Vikings by Gwyn Jones, Oxford University Press, 1968

Sociobiology (p. 72)

Sociobiology: The New Synthesis by Edward O. Wilson, Belknap/Harvard University Press, 1975

On Human Nature by Edward O. Wilson, Harvard University Press, 1978

Genetic Politics by Marc Lappé, Simon and Schuster, 1979

The Sociobiology Debate, edited by Arthur L. Caplan, Harper & Row, 1978

Bizarre pets (p. 82)

Histoire des Ménageries by Gustave Loisel (3 vols.), Henri Laurens and Octave Doin (Paris), 1912

Out of Noah's Ark by Herbert Wendt, Houghton Mifflin, 1959

Animals for Show and Pleasure in Ancient Rome by George Jennison, Manchester University Press, 1937

Petishism by Kathleen Szasz, Holt, Rinehart and Winston, 1968

It Began Before Noah by Doris Ponsonby, Michael Joseph (London), 1972

How to Run a Stately Home by John, Duke of Bedford, and George Mikes, André Deutsch (London), 1971

Famous Pets of Famous People by Eleanor Lewis, D. Lothrop Company (Boston), 1892

Puppetry (p. 95)

The Art of the Puppet by Bil Baird, Macmillan, 1965

The Puppetry Journal, bimonthly publication of Puppeteers of America, 2015 Novem Drive, Fenton, Missouri 63026

Puppetry, The Ultimate Disguise by George Latshaw, Richards Rosen Press, 1978

Traditional and Folk Puppets of the World by Michael R. Malkin, A. S. Barnes & Co., 1977

The Puppet Theatre of the Modern World by UNIMA Editorial Committee, Plays (Boston), 1967

Crow Creek massacre (p. 100)

Archeological Investigations at the Crow Creek Site (39BF11), Fort Randall Reservoir Area, South Dakota by Marvin F. Kivett and Richard E. Jensen, Nebraska State Historical Society Publication in Anthropology No. 7, 1976

Introduction to Middle Missouri Archeology by Donald J. Lehmer, Anthropological Papers 1, National Park Service, 1971

Einstein Observatory (p. 110)

"The Einstein X-Ray Observatory" by Riccardo Giacconi, *Scientific American,* February 1980

"The Einstein (HEAO 2) X-Ray Observatory" by R. Giacconi et al., *The Astrophysical Journal,* June 1, 1979

"X-Ray Astronomy Coming of Age" by Dietrick E. Thomsen, *Science News,* April 7, 1979

"The X-Ray Eyes of Einstein" by Dennis Overbye, *Sky and Telescope,* June 1979

"Einstein Explores High Energy Astrophysics" by Beverly Karplus Hartline, *Science,* June 29, 1979

"Einstein Pictures the X-Ray Sky" by Beverly Karplus Hartline, *Science,* July 6, 1979

Cambodian dance (p. 118)

"Refuge From Terror" by W. E. Garrett, *National Geographic,* May 1980

Theatre in the East by Faubion Bowers, Thomas Nelson & Sons, 1956

Edward Hopper (p. 126)

Edward Hopper: The Art and the Artist by Gail Levin, W. W. Norton & Co./Whitney Museum of American Art, 1980

Edward Hopper by Lloyd Goodrich, Harry N. Abrams, 1971

"The Legacy of Edward Hopper, Painter of Light and Loneliness" by Frank Getlein, SMITHSONIAN, September 1971

Edward Hopper: The Complete Prints by Gail Levin, W. W. Norton & Co./Whitney Museum of American Art, 1979

Auto travel (p. 135)

The Smithsonian Collection of Automobiles and Motorcycles by Smith Hempstone Oliver and Donald H. Berkebile, Smithsonian Institution Press, 1968

The Car Culture by James J. Flink, M.I.T. Press, 1975

America Adopts the Automobile, 1895-1910 by James J. Flink, M.I.T. Press, 1970

The American Automobile by John B. Rae, University of Chicago Press, 1965

Mencken (p. 151)

Disturber of the Peace: The Life of H. L. Mencken by William Manchester, Harper & Brothers, 1950

A Mencken Chrestomathy by H. L. Mencken, Alfred A. Knopf, 1949

Minority Report: H. L. Mencken's Notebooks, Alfred A. Knopf, 1956

H. L. Mencken by Charles Angoff, Thomas Yoseloff, 1956

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During the last several months of his life, when he was quite ill, I spent time with him each day at his home on the hill above the winery. What amazed me – and inspired me – was that, even as his time was coming to a close, he saw only the future. The winery founded by his father and passed down to him would now pass to a new generation of Sebastianis. The family tradition was continuing and that gave him great peace of mind.

August Sebastiani was a great winemaker, but I remember him mostly as a good, honest man who loved his life and lived it well.

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Smithsonian highlights

An important opening this month is the Museum of African Art's *Image of the Black in Western Art*. Based on a 15-year study by the Menil Foundation, the photographic survey shows how blacks have been depicted in Western art through the ages—as fearsome warriors, saints and protectors, objects of degradation, entertainers and ornaments to the households of the rich. The show will be circulated around the country by the Smithsonian Institution Traveling Exhibition Service after its opening here.

Special September events

Museum of African Art
The Image of the Black in Western Art (September 26-October 25).
African Puppetry (through September 21).

Air and Space Museum
Test Pilots (September 18, 7:30 P.M.)—Illustrated talk by A. Scott Crossfield.
Aviation Artist (September 24, 7:30 P.M.)—Keith Ferris discusses his mural.
Shine on Harvest Moon (September 6, 9 A.M.)—Monthly sky lecture.

Cooper-Hewitt Museum (New York)
Electroworks (September 2-November 2)—Some 250 examples produced on office copying machines.
Crafts in the Garden (September 26-28, 10 A.M.-7:30 P.M.)—Crafts fair.

Freer Gallery of Art
Ancient Chinese Jade (opens September 4)—Some objects from 3000 B.C.
Two Centuries of Japanese Ceramics, 1550-1750—Stoneware, porcelain.

Hirshhorn Museum & Sculpture Garden
Edwin Dickinson: Selected Landscapes (September 18-December 14).
New York: The Artist's View (through November 11)—New York scenes.

Museum of Natural History
Native Flora of Louisiana (September 27-November 23)—Watercolors.
Cycles of Sustenance (September 26-December 31)—Photos of World Bank agricultural programs in developing nations.

National Collection of Fine Arts
The Washington Print Club Members Exhibition (September 18-November 30)—Works from private collections.
Modern American Woodcuts (September 25, 7:30 P.M.)—Free symposium.

Arts and Industries Building
A Victorian Horticultural Extravaganza—Fruits and vegetables, dried flowers.

Renwick Gallery
Berlin Porcelain (September 12-November 23)—Works spanning 200 years.

Smithsonian events

For tickets to September resident associates events, call 357-3030:
UFOs: All-Day Symposium (September 6).
Art and Daily Life in Ancient Egypt: All-Day Seminar (September 13).
The Impact of African Art on Picasso (September 4, 8 P.M.).
Great Barrier Reef (September 30, 8 P.M.).

Saint Maurice, at Museum of African Art, is 13th-century sandstone sculpture.

For tickets to performing arts events, call 357-1500:
American Tap Masters (September 8, 8 P.M.)—Film and performance.
Fujian Hand Puppets, People's Republic of China (September 11, 12; 8 P.M.).
Smithsonian Chamber Players (September 29, 8 P.M.).

Regional events

This fall's regional events programs, in Anchorage, Fairbanks and Honolulu, will feature nature photography, portraiture, plate tectonics and the art of biographical writing. For further information, write: Regional Events, 1208 A&I, Smithsonian Institution, Washington, D.C. 20560.

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In the Museum of Natural History: The Court—members' dining room; Ecology Theater—30-minute slide talk on 13 Smithsonian museums, 2 P.M. daily.

In Smithsonian museum shops: Discounts with membership card.

For previsit information, send postcard or phone Associates Reception Center, Smithsonian Institution, Washington, D.C. 20560 (202-357-2700). Allow two weeks for receipt.

Smithsonian Institution Traveling Exhibition Service

SITES circulates exhibitions to hundreds of cities outside Washington, D.C. To sponsor a show in your community, write to Eileen Harakal, SITES, Smithsonian Institution, Washington, D.C. 20560. Here are some September exhibits:
San Jose, California (August 30-September 28)—*Benny Motzfeldt: A Norwegian Pathfinder in Glass,* San Jose Museum of Art.
Denver (August 22-September 21)—*Buildings Reborn: New Uses, Old Places,* First National Bank of Denver.
South Bend, Indiana (August 30-September 28)—*Early Chicago Architecture,* Historic Landmarks Foundation of Indiana.
Chattanooga (August 31-October 12)—*From All Walks of Life,* Hunter Museum of Art.
Nashville (August 30-September 28)—*Edison and the Electrical Age: 100 Years,* Cumberland Museum and Science Center.
Austin, Texas (August 30-September 28) —*Contemporary Czechoslovakian Printmakers,* University of Texas.

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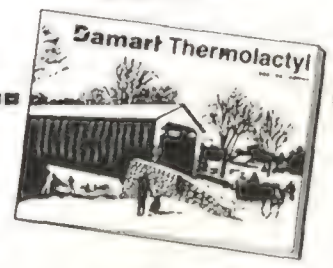

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Who's new at the zoo

The mug shots at right, chosen from this year's crop of "births and hatchings," are only a small sign that babies are big business at Smithsonian's National Zoological Park.

According to Director Theodore Reed, conservation and recognition of endangered species have brought about a philosophy that zoos should be self-sustaining. There's a greater emphasis on breeding animals, not only to maintain collections, but to preserve species. "You might say," says Dr. Reed, "that the National Zoo is the only government institution that comes out flat-footed for unlimited birth."

Unlimited may be an exaggeration. While the focus is on propagation, family planning plays a role. The question inevitably arises: how many rhinoceroses can fit in the zoo? (Only two, Tarun and Raji, so son Patrick, 6, is on "breeding loan" to the Bronx Zoo, which has three females.) Today it is common for zoos to exchange animals for exhibits and breeding. Such transactions are aided by a national computer inventory.

"The zoo controls everything for an animal, including reproduction. It's an awesome responsibility," says Dr. Reed. "For instance, we can't allow fights. In the wild, the loser usually runs away but in a cage there's no place to run."

The conditions vary as greatly as the animals. Each gibbon pair qualifies for its own cage. All the elephants are female ("males are rough") and they're not being bred at present. Keepers take eggs from the sarus crane so she lays extras which are then hatched in incubators. Sometimes parents and offspring have to be separated to preserve genetic diversity—and some animals are not allowed to breed unless there is a place for the baby.

"Birth control is fraught with dangers," says Dr. Reed. "You could suddenly find that no zoo has an animal of breeding age when you need it. So you have to keep a careful watch."

—Carol Simons

Photographs by Jessie Cohen

Short-tailed bat usually hangs head down; here baby is posed for first portrait.

Mother dama gazelle traditionally hides baby to protect it from predators.

The breeding of golden marmosets is one of the National Zoo's success stories.

Bountiful, active progeny are big draw at Egyptian spiny mouse exhibit.

Black and white ruffed lemur has a twin. They were born April 25, 1980.

One-day-old roseate spoonbill was born in an incubator and is now full-sized.

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It's not easy for us, as small nonprofit systems, to trim power sales in the face of rising operating expense. But we did—and we'll keep at it, because it's in the national interest.

There's nothing magic about our methods. We simply give high priority to energy conservation—to researching and developing techniques, teaching and training, promoting and publicizing . . . teaming up with our consumer-members to reduce energy consumption.

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America's 1000 rural electric systems report: Energy conservation works.

America's Rural Electric Cooperatives and Power Districts

For more information about the ways we're conserving energy, write Dept S, National Rural Electric Cooperative Association, 1800 Massachusetts Ave., N.W., Washington, D.C. 20036.

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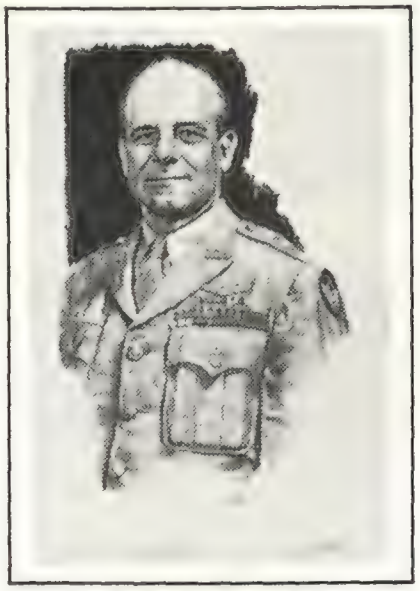

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Smithsonian Sampler Weekend—October 24-26: Curators and staff conduct behind-the-scenes tours of specially selected museums.

The Florida Keys: A Tropical Wilderness—November 2-9: An active program offers snorkeling and field trips to explore Big Pine Key and colorful coral reefs.

Philadelphia—November 5-9: This historically rich city embodies origins of our nation; visit homes in Society Hill, Rittenhouse Square and Fairmont Park.

Sapelo Island—November 9-15: Camp on unblemished beaches while studying the marine ecology, Indian ruins and history of this Georgia Barrier Island.

National Air & Space Museum—November 14-16: In-depth exploration of this popular museum and its restoration, preservation and storage facilities.

Christmas at the Smithsonian—December 5-7: Ninth annual tree-trimming party and special tours of museums.

Virgin Islands Adventure—January 12-21 or January 21-30: Chartered sailboats provide bases for exploring the Caribbean and spectacular coral reefs.

Baja Whale Watch—February 6-14: Sportfishing boat serves as base for observing gray whales and marine life; hikes and lectures focus on natural history of the Baja islands.

Coming in February: **Yellowstone in Snow.**

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Spain*—September 14-28: Explore Madrid, Toledo, Segovia and Andalusia.

Adriatic Shores—September 20-October 6: From Athens, cruise both shores of the Adriatic Sea aboard the *Argonaut*. In Italy, visit Brindisi, Bari, Ravenna, Trieste and Venice. Explore walled cities of Dubrovnik and Split on Dalmatian coast, and the Greek island of Corfu.

Paris & French Countryside*—September 21-October 5: Combines the best of old and modern Paris with museum lectures, walking tours and day excursions from the city followed by a choice of week-long travel to Alsace-Lorraine, Provence, or Normandy and Brittany.

The Land of Eire*—September 28-October 13: The treasures of history, architecture, folklore and awesome scenery are savored in this circle tour of the Irish Republic. Includes meetings with university and government leaders, special lectures and receptions.

Kyoto Seminar—October 17-November 2: A unique program to study Japanese culture and to live in Japanese style in this medieval capital. Japanese and U.S. scholars lead seminars and field trips.

India Wildlife Safari—November 16-December 9: Observe the magnificent animal life of the subcontinent. Travel to wildlife sanctuaries from Central India to Assam; also included is Nepal's famous Tiger Tops.

Antarctica—December 31, 1980-January 20, 1981: Prominent lecturers make this a rewarding expedition. Cruise aboard the *World Discoverer* from Punta Arenas, Chile, to the Falkland Islands, then down to Antarctica.

Winter Baroque—Vienna, Salzburg, Munich—January 4-18: Winter provides enchanting setting for walking tours of Baroque Vienna and Salzburg; visit museums of Vienna and Munich, and attend special music performances and a Viennese ball.

Mayan Mexico: The Yucatán Peninsula—January 8-20 or February 3-15: A complete tour of the extraordinary Mayan ruins of the Yucatán.

Guatemala—January 21-February 1 or February 18-March 1: In the company of an archaeologist, explore extensive Mayan ruins.

Kenya—February 5-22: Incomparable wildlife is observed in old safari tradition. Seminars in Nairobi, and in the field—Masai Mara, Samburu, Kilaguni.

Micronesia—An Adventure Tour—February 8-28: Unique opportunity to visit the islands of South Majuro, Kwajalein, Ponape, Truk, Saipan, Palau, and Guam. (Originates and ends in Honolulu.)

A Hike in New Zealand—February 13-28: Take the "finest walk in the world" along the Milford Track from Lake Te Anau to Milford Sound; also included, Mt. Cook National Park, Queenstown, Erewhon Park and Christchurch.

New Zealand—February 18-March 6: Tour includes Mt. Cook, Te Anau and Milford Sound, Auckland, Rotorua, Wellington, Christchurch; talks on natural history, Maori heritage, Parliament and a home visit.

Morocco—March 1-15: Includes Rabat, Meknès, Fès and Marrakech with special emphasis on the land, its people, and ancient customs; also tours to textile and tapestry museums.

Coming in March: **Oaxaca.**

* Indicates optional predeparture course.

Write National Associates, A&I 1278, Smithsonian Institution, Washington, D.C. 20560 for specific tour/seminar brochures or call (202)

in Washington

Selected Studies Seminars

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Tibet: Lost Horizons—Sept. 28-Oct. 3: A cultural history of a uniquely rich civilization. Includes tours of the Freer Gallery of Art and the best private collection of Tibetan art in the U.S.

China: A Cultural History—Oct. 5-10: Prehistory to the enigmas of today, with emphasis on the intellectual and artistic traditions and the great philosophies and religions. Includes recent films and tours of the Freer Gallery of Art.

Historic House Preservation—Oct. 19-24: Experts advise on how to work with architects, contractors and other professionals; explain mistakes to avoid and how to save money; and lead tours of lovely Georgetown, Old Town Alexandria, as well as famous country estates.

Aircraft Restoration: How To—Oct. 26-30: Internationally known craftsmen who have restored the famous masterpieces of aviation in the National Air and Space Museum offer workshops at Silver Hill on the many various techniques used.

Flemish and Dutch Painting in the 17th Century—Nov. 9-14: Princes and patriots with masterworks by Rembrandt, Hals, Vermeer, Rubens, Van Dyck and others. Lectures and tours of the National Gallery of Art with Bill Kloss.

World War II Aircraft—Nov. 16-21: Guest experts and the outstanding aeronautical staff of NASM offer new insights as they discuss how the major air forces of the world came into being and how quantum jumps in aviation production and performance were achieved. Includes tours of many of the only surviving World War II planes.

Genealogical Research—Nov. 16-21: Taught by the "dean of American genealogy," Milton Rubincam, Marilyn Duncan and other leading authorities, participants learn how to conduct research in major genealogical repositories such as the National Archives, Library of Congress and the DAR Library.

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By Joseph Kastner

The ennobling deed of pulling up the weeds

The gardening books I was brought up on always told me how to work in my garden, taking it for granted that this is what a gardener wants to do. Lately I've been reading, and grumbling at, a kind of hybrid garden book which, instead, tells how *not* to work in my garden. Don't dig the soil, it says; just scuff it. Don't pull out weeds; abort them with chemicals. Don't water the ground; suffocate it with black plastic so it can't breathe.

Recently I came on the ultimate in negative horticulture, something its authors call Carpet Gardening. Leave your garden alone, it advises me. Lay some indoor-outdoor carpet over it. Slice long slits for carrot and turnip seeds. Cut round holes for pepper and tomato plants. Leave no loopholes, however, for weeds. Then hang around for the rest of the season while the plants grow up to admire the exterior decorating you have lavished on them.

In the fall, after the last leek is pulled, roll up the carpet and store it in the attic—along with (although the authors make no mention of this) some soggy mud and hordes of sowbugs elated at the prospect of warm winter quarters.

This is, I realize, *reductio ad absurdum*, but other books of the genre, though more plausible, still miss the whole point of gardening which is, as I've indicated, to garden. Nowhere, since Adam delved, has the work ethic been more deeply rooted or more rewarding than in the garden. Digging, done deliberately, gets you into a satisfying rhythm rarely matched in other activities—perhaps in a long forehand rally on the tennis court or a self-propelling stride on a hard-packed beach. Hoeing, though an awkward process, gives you the sturdy feeling of being a pioneer.

And weeding is the last of the old-time chores which, as you work, encourages your mind to travel into the further reaches of thought. Ironing once served this purpose for the housewife. The steady stroke of the arm, the smell of the warm cloth would, my mother told me, take her off into distant and undomestic musing. The weekend carpenter would be sent, by the sound of his handsaw and the woodland scent of the sawdust, into atavistic meditation. But today permanent press has made ironing almost extinct and the man who lets his mind wander while using his electric saw can pay for it with a lost fingertip.

In weeding, as you tug at an intruding plant or gently relocate a disturbed earthworm, nature leads the workaday circuits of your mind off into the serene realms of contemplation, an involuntary exercise that somehow nourishes you.

Weeding, of course, does require some thinking on its own. You have to deal with each weed according to its character. The intransigent pigweed must be met firmly—strong grasp, unrelenting pull. Chickweed needs coaxing—gathering in the lacy stems and easing them out. Purslane has to be outwitted. It willingly yields its fleshy stem hoping you will leave the root behind. It has to be dealt with the way Hercules handled the Hydra—get it all out or each remnant will sprout tenfold.

Weeding's prevailing virtue is that it gives you a chance to garden when, maybe, you ought to be doing something else. In March, when anything but the garden needs attention, there is still some wintered-over cinquefoil to get you into the flower bed. In the middle of August, while you are working with the vacuum cleaner or checkbook, the uneasy thought intrudes that, even though you pulled every weed out yesterday, there may be one there today.

You go outside to look and, of course, there one is. You stoop to get it and spot a couple more. You lean to get them and soon, happily down on your knees, you are reaching for a bunch that is lurking under the larkspur. Weeds are a gardener's most renewable resource and should be cherished as such. Without them, gardening would—like Porgy's woman—be only a sometime thing.

I guess my bias toward weeds comes from the fact that I am a born and bred American. Among the definitions of weeds—and the definitions keep coming up like weeds themselves—there are two polarities. One, which can be called English Elite, is embodied in the *Oxford English Dictionary*, which snobbishly describes weeds as "hindering the growth of superior vegetation." The other, or American Optimistic, was set down by Emerson. A weed, he said, is "a plant whose virtues have not been discovered." And this, so far as I know, makes the weed the only instrument of nature that subjects the sober science of botany to the irrepressible hopes of democracy.

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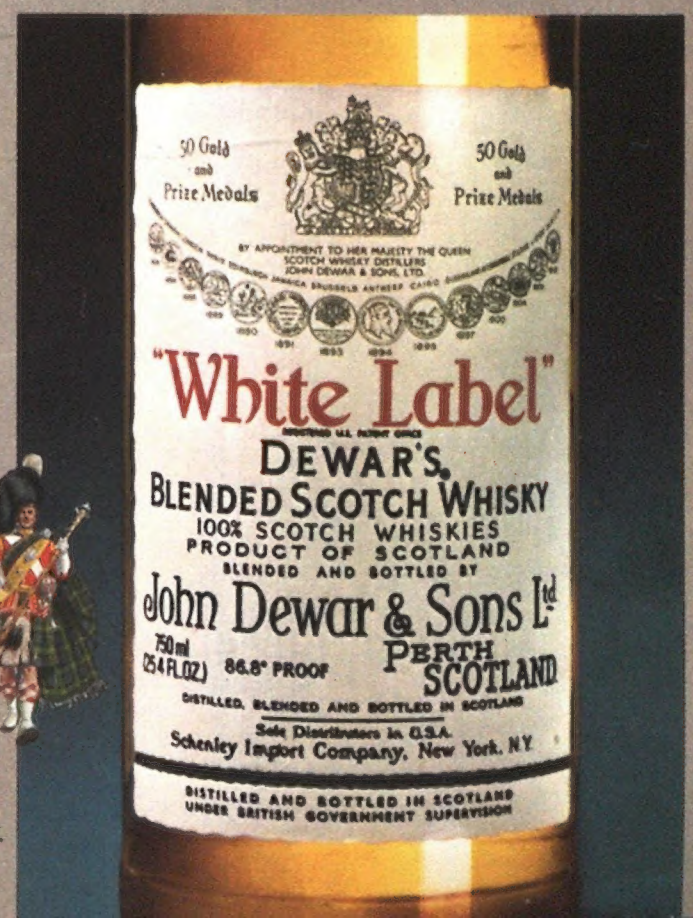
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